**NEW ISSUES**
**Book-Entry**

| | | |
|---|---|---|
| **Electric Ratings:** | **S&P:** | **“AA+”** |
| | **Moody’s:** | **“Aa2”** |
| **Gas Ratings:** | **S&P:** | **“AA”** |
| | **Moody’s:** | **“Aa2”** |
| **Water Ratings:** | **S&P:** | **“AAA”** |
| | **Moody’s:** | **“Aa1”** |
| **Wastewater Ratings:** | **S&P:** | **“AA+”** |
| | **Moody’s:** | **“Aa2”** |

**(See “MISCELLANEOUS: Ratings” herein)**

# PRELIMINARY OFFICIAL STATEMENT

# $55,000,000*
# CITY OF KNOXVILLE, TENNESSEE

## $26,200,000* Electric System Revenue Refunding Bonds, Series HH-2017

OFFERED FOR SALE AT
10:15 A.M. E. S. T.
Wednesday, March 8, 2017

## $9,425,000* Gas System Revenue Refunding Bonds, Series W-2017

OFFERED FOR SALE AT
10:45 A.M. E. S. T.
Wednesday, March 8, 2017

## $5,950,000* Water System Revenue Refunding Bonds, Series FF-2017

OFFERED FOR SALE AT
11:15 A.M. E. S. T.
Wednesday, March 8, 2017

## $13,425,000* Wastewater System Revenue Refunding Bonds, Series 2017A

OFFERED FOR SALE AT
11:45 P.M. E. S. T.
Wednesday, March 8, 2017

and at the offices of
Cumberland Securities Company, Inc.

**Cumberland Securities Company, Inc.**
Financial Advisor

March 1, 2017

*Subject to Change

PRELIMINARY OFFICIAL STATEMENT DATED MARCH 1, 2017

**NEW ISSUES**
**Book-Entry**

| | | |
|---|---|---|
| **Electric Ratings:** | **S&P:** | **"AA+"** |
| | **Moody's:** | **"Aa2"** |
| **Gas Ratings:** | **S&P:** | **"AA"** |
| | **Moody's:** | **"Aa2"** |
| **Water Ratings:** | **S&P:** | **"AAA"** |
| | **Moody's:** | **"Aa1"** |
| **Wastewater Ratings:** | **S&P:** | **"AA+"** |
| | **Moody's:** | **"Aa2"** |

**(See "MISCELLANEOUS: Ratings" herein)**

*In the opinion of Bond Counsel, based on existing law and assuming compliance with certain tax covenants of the Board, interest on the Bonds will be excluded from gross income for federal income tax purpose and is not an item of tax preference for purposes of the federal alternative minimum tax imposed on individuals and corporation; however, such interest is not taken into account in determining the adjusted current earnings of certain corporations for purposes of the alternative minimum tax on corporations. For an explanation of certain tax consequences under federal law which may result from the ownership of the Bonds, see the discussion under the heading "LEGAL MATTERS – Tax Matters" herein. Under existing law, the Bonds and the income therefrom will be exempt from all state, county and municipal taxation in the State of Tennessee, except Tennessee franchise and excise taxes. (See "LEGAL MATTERS – Tax Matters" herein).*

# $55,000,000*

# CITY OF KNOXVILLE, TENNESSEE

## $26,200,000* Electric System Revenue Refunding Bonds, Series HH-2017
## $9,425,000* Gas System Revenue Refunding Bonds, Series W-2017
## $5,950,000* Water System Revenue Refunding Bonds, Series FF-2017
## $13,425,000* Wastewater System Revenue Refunding Bonds, Series 2017A

Dated: Date of Issuance (assume April 7, 2017) Due: As shown herein

The $26,200,000* Electric System Revenue Refunding Bonds, Series HH-2017 ("Electric Bonds" or "Series HH-2017 Bonds"), $9,425,000* Gas System Revenue Refunding Bonds, Series W-2017 ("Gas Bonds" or "Series W-2017 Bonds"), $5,950,000* Water System Revenue Refunding Bonds, Series FF-2017 ("Water Bonds" or "Series FF-2017 Water Bonds"), and the $13,425,000* Wastewater System Revenue Refunding Bonds, Series 2017A ("Wastewater Bonds" or "Series 2017A Bonds"), collectively, referred to as the "Bonds" are issuable in book-entry-only form. The Bonds will be registered in the name of Cede & Co., as nominee of The Depository Trust Company, New York, New York ("DTC"). DTC will act as securities depository of the Bonds. So long as Cede & Co. is the registered owner of the Bonds, as the nominee for DTC, principal and interest with respect to the Bonds shall be payable to Cede & Co., as nominee for DTC, which will, in turn, remit such principal and interest to the DTC participants for subsequent disbursements to the Beneficial Owners of the Bonds. Individual purchases of the Bonds will be made in book-entry form only, in denominations of $5,000 or integral multiples thereof and will bear interest at the annual rates as shown on the inside cover. Interest on the Electric Bonds will be payable semi-annually on January 1 and July 1 each year, commencing July 1, 2017. Interest on the Gas Bonds will be payable semi-annually on March 1 and September 1 each year, commencing September 1, 2017. Interest on the Water Bonds will be payable semi-annually on March 1 and September 1 each year, commencing September 1, 2017. Interest on the Wastewater Bonds will be payable semi-annually on April 1 and October 1 each year, commencing October 1, 2017. Beneficial Owners of the Bonds will not receive physical delivery of Bond certificates. (See "The Bonds" - Book-Entry-Only System herein.)

The Bonds are being issued to provide funds to refinance debt relating to the Electric System, the Gas System, the Water System and the Wastewater System, as described herein, and to pay the cost of issuing the Bonds as more fully described in a subsequent part of this PRELIMINARY OFFICIAL STATEMENT.

The Bonds will be issued pursuant to and secured by bond resolutions of the City of Knoxville ("City") and will be payable solely from the net revenues of the Electric System, Gas System, Water System and the Wastewater System, respectively, of the City of Knoxville, which are operated by the Knoxville Utilities Board ("KUB"). The Bonds do not constitute a debt of the City within the meaning of any constitutional, City Charter or statutory limitation, and neither the faith and credit of the State of Tennessee nor the faith and credit of the City or any other political subdivision are pledged to the payment of the principal of or premium or interest on the Bonds.

The Bonds are not subject to optional redemption prior to maturity.

Bonds are offered when, as and if issued by the City of Knoxville subject to the approval of the legality thereof by Bass, Berry & Sims PLC, Knoxville, Tennessee, Bond Counsel, whose opinions will be delivered with the Bonds. Certain legal matters will be passed upon for Knoxville Utilities Board by Hodges, Doughty & Carson, PLLC, Knoxville, Tennessee, General Counsel to the Knoxville Utilities Board. It is expected the Bonds will be available for delivery in book-entry-only form, through the facilities of The Depository Trust Company, New York, New York on or about April __, 2017.

**Cumberland Securities Company, Inc.**
*Financial Advisor*

March _, 2017

* Subject to change.

## ELECTRIC SYSTEM REVENUE BONDS
## SERIES HH-2017

| Maturity (July 1) | Amount* | Interest Rate | Yield | CUSIP** |
|---|---|---|---|---|
| 2017 | $ 455,000 | | | |
| 2018 | 2,385,000 | | | |
| 2019 | 2,420,000 | | | |
| 2020 | 2,455,000 | | | |
| 2021 | 2,490,000 | | | |
| 2022 | 2,530,000 | | | |
| 2023 | 2,575,000 | | | |
| 2024 | 2,630,000 | | | |
| 2025 | 2,690,000 | | | |
| 2026 | 2,750,000 | | | |
| 2027 | 2,820,000 | | | |

(Accrued Interest to be Added)

## GAS SYSTEM REVENUE BONDS
## SERIES W-2017

| Maturity (March 1) | Amount* | Interest Rate | Yield | CUSIP** |
|---|---|---|---|---|
| 2018 | $ 895,000 | | | |
| 2019 | 885,000 | | | |
| 2020 | 900,000 | | | |
| 2021 | 910,000 | | | |
| 2022 | 930,000 | | | |
| 2023 | 945,000 | | | |
| 2024 | 960,000 | | | |
| 2025 | 980,000 | | | |
| 2026 | 995,000 | | | |
| 2027 | 1,025,000 | | | |

(Accrued Interest to be Added)

## WATER SYSTEM REVENUE BONDS
## SERIES FF-2017

| Maturity (March 1) | Amount* | Interest Rate | Yield | CUSIP** |
|---|---|---|---|---|
| 2018 | $ 565,000 | | | |
| 2019 | 555,000 | | | |
| 2020 | 565,000 | | | |
| 2021 | 575,000 | | | |
| 2022 | 590,000 | | | |
| 2023 | 595,000 | | | |
| 2024 | 605,000 | | | |
| 2025 | 615,000 | | | |
| 2026 | 630,000 | | | |
| 2027 | 655,000 | | | |

(Accrued Interest to be Added)

## WASTEWATER SYSTEM REVENUE BONDS
## SERIES 2017A

| Maturity (April 1) | Amount* | Interest Rate | Yield | CUSIP** |
|---|---|---|---|---|
| 2018 | $ 1,735,000 | | | |
| 2019 | 1,755,000 | | | |
| 2020 | 1,775,000 | | | |
| 2021 | 1,805,000 | | | |
| 2022 | 1,835,000 | | | |
| 2023 | 1,870,000 | | | |
| 2024 | 640,000 | | | |
| 2025 | 655,000 | | | |
| 2026 | 670,000 | | | |
| 2027 | 685,000 | | | |

(Accrued Interest to be Added)

*Subject to Change.

** These CUSIP numbers have been assigned by Standard & Poor's CUSIP Service Bureau, a division of the McGraw-Hill Companies, Inc., and are included solely for the convenience of the Bond holders. The Board is not responsible for the selection or use of these CUSIP numbers, nor is any representation made as to their correctness on the bonds or as indicated herein.

This Preliminary Official Statement speaks only as of its date, and the information contained herein is subject to change.

This Preliminary Official Statement may contain forecasts, projections, and estimates that are based on current expectations but are not intended as representations of fact or guarantees of results. If and when included in this Official Statement, the words "expects," "forecasts," "projects," "intends," "anticipates," "estimates," and analogous expressions are intended to identify forward-looking statements as defined in the Securities Act of 1933, as amended, and any such statements inherently are subject to a variety of risks and uncertainties, which could cause actual results to differ materially from those contemplated in such forward-looking statements. These forward-looking statements speak only as of the date of this Official Statement. The Issuer disclaims any obligation or undertaking to release publicly any updates or revisions to any forward-looking statement contained herein to reflect any change in the Issuer's expectations with regard thereto or any change in events, conditions, or circumstances on which any such statement is based.

This Preliminary Official Statement and the Appendices hereto contain brief descriptions of, among other matters, KUB, the Bonds, the Resolution, the Disclosure Certificate (as defined herein), and the security and sources of payment for the Bonds. Such descriptions and information do not purport to be comprehensive or definitive. The summaries of various constitutional provisions and statutes, the Resolution, the Disclosure Certificate, and other documents are intended as summaries only and are qualified in their entirety by reference to such documents and laws, and references herein to the Bonds are qualified in their entirety to the forms thereof included in the Resolution.

The Bonds have not been registered under the Securities Act of 1933, and the Resolution has not been qualified under the Trust Indenture Act of 1939, in reliance on exemptions contained in such Acts. This Preliminary Official Statement does not constitute an offer to sell or the solicitation of an offer to buy, nor shall there be any sale of the Bonds by any person in any jurisdiction in which it is unlawful for such person to make such offer, solicitation, or sale.

No dealer, broker, salesman, or other person has been authorized by the Issuer or the Underwriter to give any information or to make any representations other than those contained in this Official Statement, and, if given or made, such other information or representations should not be relied upon as having been authorized by the Issuer or the Underwriter. Except where otherwise indicated, all information contained in this Preliminary Official Statement has been provided by KUB. The information set forth herein has been obtained by KUB from sources which are believed to be reliable but is not guaranteed as to accuracy or completeness by, and is not to be construed as a representation of the Underwriter. The information contained herein is subject to change without notice, and neither the delivery of this Preliminary Official Statement nor any sale made hereunder shall under any circumstances create an implication that there has been no change in the affairs of the Issuer, or the other matters described herein since the date hereof or the earlier dates set forth herein as of which certain information contained herein is given.

In connection with this offering, the Underwriter may over-allot or effect transactions which stabilize or maintain the market prices of the Bonds at a level above that which might otherwise prevail in the open market. Such stabilizing, if commenced, may be discontinued at any time.

# CITY OF KNOXVILLE, TENNESSEE
# KNOXVILLE UTILITIES BOARD

## COMMISSIONERS

Celeste Herbert, Chair
John Worden, Vice Chair
Jerry Askew
Kathy Hamilton
Sara Hedstrom Pinnell
Tyvi Small
Nikitia Thompson

## OFFICERS

Mintha E. Roach, President and Chief Executive Officer
Mark A. Walker, Senior Vice President & Chief Financial Officer
Susan F. Edwards, Senior Vice President & Chief Administrative Officer
H. Edward Black, Senior Vice President
Gabriel Bolas, Senior Vice President & Chief Engineer
Derwin Hagood, Senior Vice President of Operations

## GENERAL COUNSEL

Hodges, Doughty & Carson, PLLC
Knoxville, Tennessee

## FINANCIAL ADVISOR

Cumberland Securities Company, Inc.
Knoxville, Tennessee

## BOND COUNSEL

Bass, Berry & Sims PLC
Knoxville, Tennessee

## INDEPENDENT ACCOUNTANTS

Coulter & Justus, P.C.
Knoxville, Tennessee

## REGISTRATION AND PAYING AGENT

Regions Bank
Nashville, Tennessee

## TABLE OF CONTENTS

**APPENDIX B-2: ELECTRIC DIVISION**
**REPORT OF INDEPENDENT ACCOUNTANTS AND FINANCIAL STATEMENTS**

**APPENDIX C-1: THE NATURAL GAS DIVISION**

**APPENDIX C-2: NATURAL GAS DIVISION**
**REPORT OF INDEPENDENT ACCOUNTANTS AND FINANCIAL STATEMENTS**

**APPENDIX D-1: THE WATER DIVISION**

# SUMMARY STATEMENT

The information set forth below is provided as a summary for convenient reference only; the information is not and does not purport to be complete and is qualified in its entirety by the information and financial statements appearing elsewhere in this PRELIMINARY OFFICIAL STATEMENT. No person is authorized to distribute or rely upon all or any part of the information in this "Summary Statement" without the balance of this PRELIMINARY OFFICIAL STATEMENT, including, all exhibits and appendices hereto.

The Bonds..........................City of Knoxville, Tennessee (the "City") $26,200,000* Electric System Revenue Refunding Bonds, Series HH-2017 ("Electric Bonds" or "Series HH-2017 Bonds"), $9,425,000* Gas System Revenue Refunding Bonds, Series W-2017 ("Gas Bonds" or "Series W-2017 Bonds"), $5,950,000* Water System Revenue Refunding Bonds, Series FF-2017 ("Water Bonds or "Series FF-2017 Water Bonds"), and the $13,425,000* Wastewater System Revenue Refunding Bonds, Series 2017A ("Wastewater Bonds" or "Series 2017A Bonds"), dated the date of issuance (assume April 7, 2017). The Electric Bonds, the Gas Bonds, the Water Bonds and the Wastewater Bonds will be collectively referred to as the "Bonds".

Purpose ..............................The Bonds are being issued to provide funds to refinance debt as described herein relating to the Electric System, the Gas System, the Water System and the Wastewater System (collectively, the "Systems"), and the payment of legal, fiscal, administrative and engineering costs incident thereto and incident to the issuance and sale of the Bonds.

Security..............................The Bonds will be issued pursuant to and secured by bond resolutions of the City and will be payable solely from the net revenues of the Systems, respectively, as further described herein.

Redemption........................The Bonds will not be subject to optional redemption prior to maturity.

Rates ..................................Rates and fees for services provided by the Systems are established by the Board of Commissioners of the Knoxville Utilities Board (the "Board"). The Electric System, the Gas System, the Water System and the Wastewater System are not otherwise subject to rate regulation, and the Board is not aware of any pending legislation which would make its rates and fees subject to regulation.

Rate Covenants..................The bond resolutions require that the Board will fix rates and collect charges for electric, gas, water and wastewater services, facilities and commodities furnished by the Systems so as to provide revenues sufficient to pay, as the same shall become due, the necessary expenses of operating and maintaining the respective System and all other obligations and indebtedness payable out of revenues of the respective System.

Additional Electric
Revenue Bonds...............The City, acting by and through Knoxville Utilities Board ("KUB"), or KUB may issue additional bonds, notes or other obligations pursuant to the Electric Bond Resolution provided that all payments required to be made to the Electric Debt Service Fund and into any reserve fund which may be required under resolutions authorizing parity indebtedness are current as of the date of issuance of the additional bonds, notes or other obligations, on a parity and equality of lien with the outstanding parity indebtedness under the Electric Bond Resolution, with respect to the lien and claim of such additional bonds, notes or other obligations to the net revenues of the Electric System and the money on deposit in the Electric Debt Service Fund (i) for the purpose of refunding any outstanding parity indebtedness, subordinate bonds, notes, loan agreements or other obligations, provided that after the issuance of such additional parity indebtedness, the Aggregate Debt Service (as defined in the Electric Bond Resolution) on all outstanding parity indebtedness, including the additional parity indebtedness to be issued, in any fiscal year shall not increase by more than ten percent (10%) after the issuance of such additional parity indebtedness; (ii) for the

*Subject to Change.

purpose of financing the completion or equipping of improvements to the Electric System for which outstanding parity indebtedness have previously been issued but only to the extent necessary to complete such improvements in the manner contemplated at the time of the issuance of the outstanding parity indebtedness that financed such improvements; (iii) and for the purposes of refunding any outstanding parity indebtedness or any prior lien bonds, subordinated bonds, notes or other obligations or extending, improving or replacing the Electric System or for any other lawful purpose under applicable law, if one of the following conditions shall have been met: (A) the Net Revenues (as defined in the Electric Bond Resolution) for any twelve-month period selected by the Board ending within the twelve months prior to the date of the issuance of the additional parity indebtedness must have been equal to at least 120% of the Maximum Annual Aggregate Debt Service (as defined in the Electric Bond Resolution) on outstanding parity indebtedness plus the Debt Service on the additional parity indebtedness proposed to be issued or (B) the estimated Net Revenues of the Electric System for each of the three fiscal years next succeeding the issuance of the additional parity indebtedness, must be equal at least to 120% of Maximum Annual Aggregate Debt Service, any other outstanding parity indebtedness and all outstanding prior lien bonds plus the Debt Service on the additional parity indebtedness proposed to be issued; provided, however, that if the additional parity indebtedness is to be issued for the acquisition or construction of any extension, improvement or replacement to the Electric System, then the estimate of Net Revenues may be for the three fiscal years ensuing after the time that such improvement, extension or replacement is expected to be placed in service.

Additional Gas Revenue Bonds.............. The City, acting by and through KUB, or KUB may issue additional bonds, notes or other obligations pursuant to the Gas Bond Resolutions (as defined herein) provided that all payments required to be made to the Gas Debt Service Fund and into any reserve fund which may be required under resolutions authorizing parity indebtedness are current as of the date of issuance of the additional bonds, notes or other obligations, on a parity and equality of lien with the outstanding parity indebtedness under the Gas Bond Resolutions with respect to the lien and claim of such additional bonds, notes or other obligations to the net revenues of the Gas System and the money on deposit in the Gas Debt Service Fund (i) for the purpose of refunding any outstanding parity indebtedness, subordinate bonds, notes, loan agreements or other obligations, provided that after the issuance of such additional parity indebtedness, the Aggregate Debt Service (as defined in the Gas Bond Resolutions) on all outstanding parity indebtedness, including the additional parity indebtedness to be issued, in any fiscal year shall not increase by more than ten percent (10%) after the issuance of such additional parity indebtedness; (ii) for the purpose of financing the completion or equipping of improvements to the Gas System for which outstanding parity indebtedness has previously been issued but only to the extent necessary to complete such improvements in the manner contemplated at the time of the issuance of the outstanding parity indebtedness that financed such improvements; and (iii) for the purposes of refunding any outstanding parity indebtedness or any prior lien bonds, subordinated bonds, notes or other obligations or extending, improving or replacing the Gas System or for any other lawful purpose under applicable law, if one of the following conditions shall have been met: (A) the Net Revenues (as defined in the Gas Bond Resolutions) for any twelve-month period selected by the Board ending within the twelve months prior to the date of the issuance of the additional parity indebtedness must have been equal to at least 120% of the Maximum Annual Aggregate Debt Service (as defined in the Gas Bond Resolutions) on outstanding parity indebtedness plus the Debt Service on the additional parity indebtedness proposed to be issued or (B) the estimated Net Revenues of the Gas System for each of the three fiscal years next succeeding the issuance of the additional parity indebtedness, must be equal at least to 120% of Maximum Annual Aggregate Debt Service, any other outstanding parity indebtedness and all outstanding prior lien bonds plus the Debt Service on the additional parity indebtedness proposed to be issued; provided, however, that if the additional parity indebtedness is to be issued for the acquisition or construction of any extension, improvement or replacement to the Gas System, then the estimate of Net Revenues may be for the three fiscal years ensuing after the time that such improvement, extension or replacement is expected to be placed in service.

Additional Water Revenue Bonds..............The City, acting by and through KUB, or KUB may issue additional bonds, notes or other obligations pursuant to the Water Bond Resolutions (as defined herein), provided that all payments required to be made to the Water Debt Service Fund and into any reserve fund which may be required under resolutions authorizing parity indebtedness are current as of the date of issuance of the additional bonds, notes or other obligations, on a parity and equality of lien with the outstanding parity indebtedness with respect to the lien and claim of such additional bonds, notes or other obligations to the net revenues of the Water System and the money on deposit in the Water Debt Service Fund for the purpose of (i) refunding any outstanding parity indebtedness, subordinate bonds, notes, loan agreements or other obligations, provided that after the issuance of such additional parity indebtedness, the Aggregate Debt Service (as defined in the Water Bond Resolutions) on all outstanding parity indebtedness, including the additional parity indebtedness to be issued, in any fiscal year shall not increase by more than ten percent (10%) after the issuance of such additional parity indebtedness; (ii) for the purpose of financing the completion or equipping of improvements to the Water System for which outstanding parity indebtedness have previously been issued but only to the extent necessary to complete such improvements in the manner contemplated at the time of the issuance of the outstanding parity indebtedness that financed such improvements; and (iii) for the purposes of refunding any outstanding parity indebtedness or any prior lien bonds, subordinated bonds, notes or other obligations or extending, improving or replacing the Water System or for any other lawful purpose under applicable law, if one of the following conditions shall have been met: (A) the Net Revenues (as defined in the Water Bond Resolutions) for any twelve-month period selected by the Board ending within the twelve months prior to the date of the issuance of the additional parity indebtedness must have been equal to at least 120% of the Maximum Annual Aggregate Debt Service (as defined in the Water Bond Resolutions) on outstanding parity indebtedness plus the Debt Service on the additional parity indebtedness proposed to be issued or (B) the estimated Net Revenues of the Water System for each of the three fiscal years next succeeding the issuance of the additional parity indebtedness, must be equal at least to 120% of Maximum Annual Aggregate Debt Service, any other outstanding parity indebtedness and all outstanding prior lien bonds plus the Debt Service on the additional parity indebtedness proposed to be issued; provided, however, that if the additional parity indebtedness is to be issued for the acquisition or construction of any extension, improvement or replacement to the Water System, then the estimate of Net Revenues may be for the three fiscal years ensuing after the time that such improvement, extension or replacement is expected to be placed in service.

Additional Wastewater Revenue Bonds..............The City, acting by and through KUB, or KUB may issue additional bonds, notes or other obligations pursuant to the Wastewater Bond Resolution provided that all payments required to be made to the Wastewater Debt Service Fund and into any reserve fund which may be required under resolutions authorizing parity indebtedness are current as of the date of issuance of the additional bonds, notes or other obligations, on a parity and equality of lien with the outstanding parity indebtedness under the Wastewater Bond Resolution, with respect to the lien and claim of such additional bonds, notes or other obligations to the net revenues of the Wastewater System and the money on deposit in the Wastewater Debt Service Fund (i) for the purpose of refunding any outstanding parity indebtedness, subordinate bonds, notes, loan agreements or other obligations, provided that after the issuance of such additional parity indebtedness, the Aggregate Debt Service (as defined in the Wastewater Resolution) on all outstanding parity indebtedness, including the additional parity indebtedness to be issued, in any fiscal year shall not increase by more than ten percent (10%) after the issuance of such additional parity indebtedness; (ii) for the purpose of financing the completion or equipping of improvements to the Wastewater System for which outstanding parity indebtedness have previously been issued but only to the extent necessary to complete such improvements in the manner contemplated at the time of the issuance of the outstanding parity indebtedness that financed such improvements; and (iii) for the purposes of refunding any outstanding parity indebtedness or any prior lien bonds, subordinated bonds, notes or other obligations or extending, improving or replacing the Wastewater System or for any other lawful purpose under applicable law, if one of the following conditions shall have been met: (A) the Net Revenues (as defined in the Wastewater Bond Resolution) for any twelve-month period selected by the Board ending within the twelve months prior to the date of the issuance of the additional parity indebtedness must have been equal to at least 120% of the Maximum Annual Aggregate Debt Service (as defined in the Wastewater Bond Resolution) on outstanding parity indebtedness plus the Debt Service on the additional parity indebtedness proposed to be issued or (B) the estimated Net Revenues of the Wastewater System for each of the three fiscal years next succeeding the issuance of the additional parity indebtedness, must be equal at least to 120% of Maximum Annual Aggregate Debt Service, any other outstanding parity indebtedness and all outstanding prior lien bonds plus the Debt Service on the additional parity indebtedness proposed to be issued; provided, however, that if the additional parity indebtedness is to be issued for the acquisition or construction of any extension, improvement or replacement to the Wastewater System, then the estimate of Net Revenues may be for the three fiscal years ensuing after the time that such improvement, extension or replacement is expected to be placed in service.

Combined Operation of Any System Permitted in the Future.....................To the extent permitted by law, the Board may combine any or all the City's utility Systems into a single unified operation (the "Combined System") and commingle the revenues of the System in the Combined System without keeping separate accounts of the funds of each of such System, provided payments from the funds of the Combined System are required to be made into the respective Debt Service Funds from time to time in amounts sufficient to pay the principal of and interest as such principal and interest becomes due. Bonds and notes ("Parity Bonds") payable from revenues of the Combined System may be issued on a parity with outstanding bonds secured by a System's revenues provided at the time of the issuance of any such Parity Bonds, among other things, the net earnings of the Combined System after making provision for the payment of periodic installments of principal and interest on any bonds having a superior lien on a system or the revenues of any such system, for a period of twelve consecutive months (the "Twelve-Month Period") out of the fifteen months immediately preceding the issuance of such Parity Bonds shall be equal to at least 1.2 times the highest combined principal and interest requirement for any period of twelve consecutive months beginning on July 1 of any succeeding calendar year on all bonds outstanding and to be then issued directly payable from the revenues of the Combined System.

If within twelve months prior to the issuance of the Parity Bonds, the Board shall have put into effect a revised schedule of rates for the Combined System or any part thereof, then the net earnings of the Combined System for the Twelve-Month Period, as certified by independent consultants, that would have resulted from such revised rates had they been in effect for the Twelve-Month Period, may be used in lieu of the actual net earnings for such Twelve-Month Period.

Tax Matters.........................In the opinion of Bond Counsel, based on existing law and assuming compliance with certain tax covenants by the Knoxville Utilities Board, interest on the Bonds will be excluded from gross income for federal income tax purposes and is not an item of tax preference for purposes of the federal alternative minimum tax imposed on individuals and

| | |
|---|---|
| | corporations; however, such interest is taken into account in determining the adjusted current earnings of certain corporations for purposes of the alternative minimum tax on corporations. For an explanation of certain tax consequences under federal law which may result from the ownership of the Bonds, see the discussion under the heading "LEGAL MATTERS – Tax Matters" herein. Under existing law, the Bonds and the income therefrom will be exempt from all state, county and municipal taxation in the State of Tennessee, except Tennessee franchise and excise taxes. (See "LEGAL MATTERS – Tax Matters" herein). |
| Registration and Paying Agent ................ | Regions Bank, Nashville, Tennessee. |
| Bond Counsel .................. | Bass, Berry & Sims PLC, Knoxville, Tennessee. |
| Financial Advisor ............ | Cumberland Securities Company, Inc., Knoxville, Tennessee. |
| General............................. | The Bonds will be issued pursuant to Chapter 34, Title 7, and Chapter 21, Title 9, *Tennessee Code Annotated*, as amended (the “Act”). See the sections entitled SECURITIES OFFERED, herein. The Bonds will be issued with CUSIP numbers through the facilities of The Depository Trust Company, New York, New York. |
| Disclosure ......................... | In accordance with Rule 15c2-12 promulgated under the Securities Exchange Act of 1934 as amended, the County will provide the Municipal Securities Rulemaking Board (“MSRB”) through the operation of the Electronic Municipal Market Access system (“EMMA”) and the State Information Depository (“SID”) established in Tennessee, if any, annual financial statements and other pertinent credit information, including the Comprehensive Annual Financial Reports of KUB for the Systems. For additional information, see the section entitled “MISCELLANEOUS - Continuing Disclosure” for additional information. |
| Other Information............ | The information in the PRELIMINARY OFFICIAL STATEMENT is deemed “final” within the meaning of Rule 15c2-12 promulgated under the Securities Exchange Act of 1934 as of the date which appears on the cover hereof except for the omissions of certain pricing information allowed to be omitted pursuant to such Rule 15c2-12. For more information concerning the City and the Board or the PRELIMINARY OFFICIAL STATEMENT, Cumberland Securities Company, Inc., Knoxville, Tennessee, Telephone: (865) 988-2663. Additional information regarding BiDCOMP™/PARITY™ may be obtained from PARITY™, 1359 Broadway - 2nd Floor, New York, NY 10018, Telephone: 800.850.7422. |

**ELECTRIC DIVISION**

For the Years Ended June 30

| | **2012** | **2013** | **2014** | **2015** | **2016** |
|---|---|---|---|---|---|
| Operating Revenues | $506,053,787 | $534,888,206 | $527,832,791 | $533,205,845 | $521,369,202 |
| Operating Expenses* | (457,825,178) | (481,546,956) | (471,672,029) | (474,548,388) | (457,111,381) |
| Net Income Before Depreciation & Taxes | $48,228,610 | $53,341,250 | $56,160,762 | $58,657,457 | $64,257,821 |
| Other Revenue | 501,903 | 370,800 | 289,857 | 322,222 | 549,060 |
| FICA Tax Expense | (1,496,062) | (1,656,801) | (1,721,551) | (1,759,421) | (1,894,298) |
| Income Available for Debt Service | $47,234,450 | $52,055,249 | $54,729,068 | $57,220,258 | $62,912,583 |
| Debt Service on Senior Bonds | $13,762,442 | $13,408,457 | $14,975,114 | $15,080,450 | 19,192,916 |
| Bond Coverage | 3.43x | 3.88x | 3.65x | 3.79x | 3.28x |

## NATURAL GAS DIVISION

For the Years Ended June 30

| | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|
| Operating Revenues | $86,760,687 | $103,597,256 | $117,145,734 | $114,168,784 | $88,441,144 |
| Operating Expenses* | (68,094,775) | (79,129,040) | (86,054,237) | (80,188,328) | (58,177,063) |
| Net Income Before Depreciation & Taxes | $18,665,912 | $24,468,216 | $31,091,497 | $33,980,456 | $30,264,081 |
| Other Revenue | 239,596 | 148,552 | 143,753 | 158,779 | 183,418 |
| FICA Tax Expense | (519,475) | (539,422) | (574,556) | (575,782) | (653,095) |
| Income Available for Debt Service | $18,386,033 | $24,077,346 | $30,660,694 | $33,563,453 | $29,794,404 |
| Debt Service on Senior Bonds | $8,650,783 | $8,214,787 | $8,911,186 | $9,542,380 | 9,437,262 |
| Bond Coverage | 2.22x | 2.93x | 3.44x | 3.52x | 3.16x |

## WATER DIVISION

For the Years Ended June 30

| | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|
| Operating Revenues | $37,475,750 | $38,063,528 | $39,373,714 | $44,173,190 | $47,453,401 |
| Operating Expenses | (21,189,636) | (21,427,740) | (22,871,480) | (22,694,149) | (23,334,846) |
| Net Income Before Depreciation & Taxes | $16,286,114 | $16,635,788 | $16,502,234 | $21,479,041 | $24,118,555 |
| Other Revenue | 200,362 | 139,775 | 125,448 | 134,691 | 194,146 |
| FICA Tax Expense | (662,051) | (624,281) | (664,594) | (678,049) | (740,757) |
| Income Available for Debt Service | $15,824,425 | $16,151,282 | $15,963,088 | $20,935,683 | $23,571,944 |
| Debt Service on Senior Bonds | $6,174,022 | $7,550,442 | $7,983,219 | $8,894,814 | 10,162,232 |
| Bond Coverage | 2.56x | 2.14x | 2.00x | 2.35x | 2.32x |

## WASTEWATER DIVISION

For the Years Ended June 30

| | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|
| Operating Revenues | $70,502,494 | $74,579,313 | $75,041,645 | $79,206,028 | $83,645,509 |
| Operating Expenses* | (24,920,362) | (27,822,708) | (29,652,128) | (30,889,188) | (31,511,199) |
| Net Income Before Depreciation & Taxes | $45,582,133 | $46,756,605 | $45,389,517 | $48,316,840 | $52,134,310 |
| Other Revenue | 561,662 | 372,644 | 291,711 | 301,292 | 461,544 |
| FICA Tax Expense | (622,483) | (674,060) | (719,291) | (725,205) | (747,389) |
| Income Available for Debt Service | $45,521,312 | $46,455,189 | $44,961,937 | $47,892,927 | $51,848,465 |
| Debt Service on Senior Bonds | $26,175,686 | $26,616,517 | $28,041,968 | $29,023,441 | 30,819,779 |
| Bond Coverage | 1.74x | 1.75x | 1.60x | 1.65x | 1.68x |

Source: The above amounts have been derived from the Annual Audited Financial Statements for the Knoxville Utilities Board, Electric, Gas, Water and Wastewater Divisions and should be read in conjunction therewith.

*Excluding Provision for Depreciation and Taxes.

# SUMMARY NOTICE OF SALE

# $55,000,000*
## CITY OF KNOXVILLE, TENNESSEE
### $26,200,000* Electric System Revenue Refunding Bonds, Series HH-2017
### $9,425,000* Gas System Revenue Refunding Bonds, Series W-2017
### $5,950,000* Water System Revenue Refunding Bonds, Series FF-2017
### $13,425,000* Wastewater System Revenue Refunding Bonds, Series 2017A

NOTICE IS HEREBY GIVEN that separate electronic or written bids will be received by the President and CEO of KUB, at the offices of Cumberland Securities Company, Inc., Knoxville, Tennessee, until 10:15 a.m. E.S.T. on Wednesday, March 8, 2017, on behalf of the City for the purchase of $26,200,000* Electric System Revenue Refunding Bonds, Series HH-2017 ("Electric Bonds" or "HH-2017 Bonds"). Prior to accepting bids, the Board, or the President and CEO of KUB, as its designee, reserves the right to postpone the sale to a later date, or to cancel the sale based upon market conditions via munihub at the internet website address (www.prospectushub.com) and/or the ***BiDCOMP™/PARITY™*** System not later than 9:45 a.m., Eastern Standard Time, on the day of the bid opening. Such notice will specify the revised principal amounts, if any, and any later date selected for the sale, which may be postponed or cancelled in the same manner. If the sale is postponed, a later public sale may be held at the hour and place and on such date as communicated upon at least forty-eight hours' notice via munihub at the internet website address (www.prospectushub.com) and/or the ***BiDCOMP™/PARITY™*** System.

NOTICE IS HEREBY GIVEN that separate electronic or written bids will be received by the President and CEO of KUB, at the offices of Cumberland Securities Company, Inc., Knoxville, Tennessee, until 10:45 a.m. E.S.T. on Wednesday, March 8, 2017, on behalf of the City for the purchase of $9,425,000* Gas System Revenue Refunding Bonds, Series W-2017 ("Gas Bonds" or "Series W-2017 Bonds"). Prior to accepting bids, the Board, or the President and CEO of KUB, as its designee, reserves the right to postpone the sale to a later date, or to cancel the sale based upon market conditions via munihub at the internet website address (www.prospectushub.com) and/or the ***BiDCOMP™/PARITY™*** System not later than 10:15 a.m., Eastern Standard Time, on the day of the bid opening. Such notice will specify the revised principal amounts, if any, and any later date selected for the sale, which may be postponed or cancelled in the same manner. If the sale is postponed, a later public sale may be held at the hour and place and on such date as communicated upon at least forty-eight hours' notice via munihub at the internet website address (www.prospectushub.com) and/or the ***BiDCOMP™/PARITY™*** System.

NOTICE IS HEREBY GIVEN that separate electronic or written bids will be received by the President and CEO of KUB, at the offices of Cumberland Securities Company, Inc., Knoxville, Tennessee, until 11:15 a.m. E.S.T. on Wednesday, March 8, 2017, on behalf of the City for the purchase of $5,950,000* Water System Revenue Refunding Bonds, Series FF-2017 ("Water Bonds" or "Series FF-2017 Water Bonds"). Prior to accepting bids, the Board, or the President and CEO of KUB, as its designee, reserves the right to postpone the sale to a later date, or to cancel the sale based upon market conditions via munihub at the internet website address (www.prospectushub.com) and/or the ***BiDCOMP™/PARITY™*** System not later than 10:30 a.m., Eastern Standard Time, on the day of the bid opening. Such notice will specify the revised principal amounts, if any, and any later date selected for the sale, which may be postponed or cancelled in the same manner. If the sale is postponed, a later public sale may be held at the hour and place and on such date as communicated upon at least forty-eight hours' notice via munihub at the internet website address (www.prospectushub.com) and/or the ***BiDCOMP™/PARITY™*** System.

NOTICE IS HEREBY GIVEN that separate electronic or written bids will be received by the President and CEO of KUB, at the offices of Cumberland Securities Company, Inc., Knoxville, Tennessee, until 11:45 p.m. E.S.T. on Wednesday, March 8, 2017, on behalf of the City for the purchase of $13,425,000* Wastewater System Revenue Refunding Bonds, Series 2017A ("Wastewater Bonds" or "Series 2017A Bonds"). Prior to accepting bids, the Board, or the President and CEO of KUB, as its designee, reserves the right to postpone the sale to a later date, or to cancel the sale based upon market conditions via munihub at the internet website address (www.prospectushub.com) and/or the ***BiDCOMP™/PARITY™*** System not later than 11:00 a.m., Eastern Standard Time, on the day of the bid opening.

*Subject to Change.

Such notice will specify the revised principal amounts, if any, and any later date selected for the sale, which may be postponed or cancelled in the same manner. If the sale is postponed, a later public sale may be held at the hour and place and on such date as communicated upon at least forty-eight hours' notice via munihub at the internet website address (www.prospectushub.com) and/or the ***BiDCOMP™/PARITY™*** System.

The Electric Bonds, the Gas Bonds, the Water Bonds, and the Wastewater Bonds are collectively referred to herein as the "Bonds".

Electronic bids for the Bonds must be submitted through ***BiDCOMP™/PARITY™*** and no other provider of electronic bidding services will be accepted. Subscription to the i-Deal LLC Dalcomp Division's ***BiDCOMP™*** Competitive Bidding System is required in order to submit an electronic bid. Neither the City nor KUB will confirm any subscription nor be responsible for the failure of any prospective bidders to subscribe. For the purposes of the bidding process, the time as maintained by ***BiDCOMP™/PARITY™*** shall constitute the official time with respect to all bids whether in electronic or written form. To the extent any instructions or directions set forth in ***BiDCOMP™/PARITY™*** conflict with the terms of the Detailed Notice of Sale, such Notice shall prevail.

The Electric Bonds will be dated the date of issuance (assume April 7, 2017). The Electric Bonds will mature on July 1 in the years 2017 through 2027, inclusive, and will not be subject to optional redemption prior to maturity. The approving opinion for the Electric Bonds will be furnished at the expense of KUB by Bass, Berry & Sims PLC, Bond Counsel, Knoxville, Tennessee. No rate or rates bid for the Electric Bonds shall exceed five percent (5.0%). No bid will be considered for the Electric Bonds for less than ninety-nine and one-quarter percent (99.25%) of par and accrued interest or more than one hundred and twenty-five percent (125%) of par and accrued interest. Unless bids are rejected, the Electric Bonds will be awarded separately by the President and CEO on the sale date to the bidder whose bid result in the lowest true interest rate on the Electric Bonds.

The Gas Bonds will be dated the date of issuance (assume April 7, 2017). The Gas Bonds will mature on March 1 in the years 2018 through 2027, inclusive, and will not be subject to optional redemption prior to maturity. The approving opinion for the Gas Bonds will be furnished at the expense of KUB by Bass, Berry & Sims PLC, Bond Counsel, Knoxville, Tennessee. No rate or rates bid for the Gas Bonds shall exceed five percent (5.0%). No bid will be considered for the Gas Bonds for less than ninety-nine and one-quarter percent (99.25%) of par and accrued interest or more than one hundred and twenty-five percent (125%) of par and accrued interest. Unless bids are rejected, the Gas Bonds will be awarded separately by the President and CEO on the sale date to the bidder whose bid result in the lowest true interest rate on the Gas Bonds.

The Water Bonds will be dated the date of issuance (assume April 7, 2017). The Water Bonds will mature on March 1 in the years 2018 through 2027, inclusive, and will not be subject to optional redemption prior to maturity. The approving opinion for the Water Bonds will be furnished at the expense of KUB by Bass, Berry & Sims PLC, Bond Counsel, Knoxville, Tennessee. No rate or rates bid for the Water Bonds shall exceed five percent (5.0%). No bid will be considered for the Water Bonds for less than ninety-nine and one-quarter percent (99.25%) of par and accrued interest or more than one hundred and twenty-five percent (125%) of par and accrued interest. Unless bids are rejected, the Water Bonds will be awarded separately by the President and CEO on the sale date to the bidder whose bid result in the lowest true interest rate on the Water Bonds.

The Wastewater Bonds will be dated the date of issuance (assume April 7, 2017). The Wastewater Bonds will mature on April 1 in the years 2018 through 2027, inclusive, and will not be subject to optional redemption prior to maturity. The approving opinion for the Wastewater Bonds will be furnished at the expense of KUB by Bass, Berry & Sims PLC, Bond Counsel, Knoxville, Tennessee. No rate or rates bid for the Wastewater Bonds shall exceed five percent (5.0%). No bid will be considered for the Wastewater Bonds for less than ninety-nine and one-quarter percent (99.25%) of par and accrued interest or more than one hundred and twenty-five percent (125%) of par and accrued interest. Unless bids are rejected, the Wastewater Bonds will be awarded separately by the President and CEO on the sale date to the bidder whose bid result in the lowest true interest rate on the Wastewater Bonds.

Electronic bids made through the facilities of ***BiDCOMP™/PARITY™*** shall be deemed an offer to purchase in response to the Detailed Notice of Sale and shall be binding upon the bidders as if made by signed, written bids delivered to KUB. KUB, Bond Counsel and the Financial Advisor shall not be responsible for any malfunction or mistake made by or as a result of the use of the electronic bidding facilities provided and maintained by ***BiDCOMP™/PARITY™***. The use of the ***BiDCOMP™/PARITY™*** facility is at the sole risk of the prospective bidders.

Additional information, including the PRELIMINARY OFFICIAL STATEMENT in near final form and the Detailed Notice of Sale, may be obtained through www.prospectushub.com or Mintha E. Roach, President & CEO, Knoxville Utilities Board, 445 South Gay Street, Knoxville, Tennessee 37902 or from KUB's Financial Advisor, Cumberland Securities Company, Inc., Knoxville, Tennessee (865) 988-2663 or Munihub at (www.prospectushub.com). Further information regarding ***BiDCOMP™/PARITY™*** may be obtained from PARITY™, 1359 Broadway - 2nd Floor, New York, NY 10018, Telephone: 800.850.7422.

CITY OF KNOXVILLE, TENNESSEE
By and Through
KNOXVILLE UTILITIES BOARD

By: Mintha E. Roach
President & CEO
Knoxville Utilities Board

# DETAILED NOTICE OF SALE

# $55,000,000*

## CITY OF KNOXVILLE, TENNESSEE

### $26,200,000* Electric System Revenue Refunding Bonds, Series HH-2017
### $9,425,000* Gas System Revenue Refunding Bonds, Series W-2017
### $5,950,000* Water System Revenue Refunding Bonds, Series FF-2017
### $13,425,000* Wastewater System Revenue Refunding Bonds, Series 2017A

NOTICE IS HEREBY GIVEN that separate electronic or written bids will be received by the President and CEO of KUB, at the offices of Cumberland Securities Company, Inc., Knoxville, Tennessee, until 10:15 a.m. E.S.T. on Wednesday, March 8, 2017, on behalf of the City for the purchase of $26,200,000* Electric System Revenue Refunding Bonds, Series HH-2017 ("Electric Bonds" or "HH-2017 Bonds"). Prior to accepting bids, the Board, or the President and CEO of KUB, as its designee, reserves the right to postpone the sale to a later date, or to cancel the sale based upon market conditions via munihub at the internet website address (www.prospectushub.com) and/or the ***BiDCOMP™/PARITY™*** System not later than 9:45 a.m., Eastern Standard Time, on the day of the bid opening. Such notice will specify the revised principal amounts, if any, and any later date selected for the sale, which may be postponed or cancelled in the same manner. If the sale is postponed, a later public sale may be held at the hour and place and on such date as communicated upon at least forty-eight hours' notice via munihub at the internet website address (www.prospectushub.com) and/or the ***BiDCOMP™/PARITY™*** System.

NOTICE IS HEREBY GIVEN that separate electronic or written bids will be received by the President and CEO of KUB, at the offices of Cumberland Securities Company, Inc., Knoxville, Tennessee, until 10:45 a.m. E.S.T. on Wednesday, March 8, 2017, on behalf of the City for the purchase of $9,425,000* Gas System Revenue Refunding Bonds, Series W-2017 ("Gas Bonds" or "Series W-2017 Bonds"). Prior to accepting bids, the Board, or the President and CEO of KUB, as its designee, reserves the right to postpone the sale to a later date, or to cancel the sale based upon market conditions via munihub at the internet website address (www.prospectushub.com) and/or the ***BiDCOMP™/PARITY™*** System not later than 10:15 a.m., Eastern Standard Time, on the day of the bid opening. Such notice will specify the revised principal amounts, if any, and any later date selected for the sale, which may be postponed or cancelled in the same manner. If the sale is postponed, a later public sale may be held at the hour and place and on such date as communicated upon at least forty-eight hours' notice via munihub at the internet website address (www.prospectushub.com) and/or the ***BiDCOMP™/PARITY™*** System.

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*Subject to Change.

place and on such date as communicated upon at least forty-eight hours' notice via munihub at the internet website address (www.prospectushub.com) and/or the ***BiDCOMP™/PARITY™*** System.

The Electric Bonds, the Gas Bonds, the Water Bonds, and the Wastewater Bonds are collectively referred to herein as the "Bonds".

Description of the Bonds.

The Electric Bonds are being issued pursuant to Chapter 34, Title 7, and Chapter 21, Title 9, *Tennessee Code Annotated,* as amended (the "Act"), the Charter of the City (the "City Charter"), other applicable statutes, and pursuant to Resolution No. 1644 adopted by the City on January 4, 1949 as amended and supplemented by Resolution No. 2171 adopted February 22, 1955; Resolution No. 3491 adopted by the City on February 21, 1967; Resolution R-317-90 adopted by the City on October 30, 1990; Resolution No. R-469-92 adopted by the City on October 13, 1992; Resolution No. R-472-93 adopted by the City on October 26, 1993; Resolution No. R-95-95 adopted by the City on February 28, 1995; Resolution No. R-422-98 adopted by the City on October 20, 1998; Resolution No. R-64-01 adopted by the City on February 20, 2001; Resolution No. R-148-01 adopted by the City on March 20, 2001; Resolution No. R-480-01 adopted by the City on October 30, 2001; Resolution No. R-59-04 adopted by the City on March 2, 2004; Resolution No. R-261-05 adopted by the City on July 5, 2005; Resolution No. R-78-06 adopted by the City on February 28, 2006; Resolution No. R-251-08 adopted by the City on July 29, 2008; Resolution No. R-332-2010 adopted by the City on November 2, 2010; Resolution No. R-335-2011 adopted by the City on December 13, 2011; Resolution No. R-289-2012 adopted by the City on October 16, 2012; Resolution No. R-321-2012 adopted by the City on November 13, 2012; Resolution No. R-213-2014 adopted by the City on June 24, 2014; Resolution No. R-81-2015 adopted by the City on March 3, 2015; Resolution No. R-129-2015 adopted by the City on March 31, 2015; Resolution No. R-314-2016 adopted by the City on June 21, 2016; and Resolution No. R-52-2017 adopted by the City on January 31, 2017. Resolution Nos. 1644, 2171, 3491, R-317-90, R-469-92, R-472-93, R-95-95, R-422-98, R-64-01, R-148-01, R-480-01, R-59-04, R-261-05, R-78-06, R-251-08, R-332-2010, R-335-2011, R-289-2012, R-321-2012, R-213-2014, R-81-2015, R-129-2015, R-314-2016 and R-52-2017 are hereinafter sometimes collectively referred to as the "Electric Bond Resolutions." All Electric System Revenue Bonds issued pursuant to such Electric Bond Resolutions are hereinafter referred to as the "Electric System Bonds."

The Gas Bonds are being issued pursuant to the Act, the City Charter, other applicable statutes, and pursuant to Resolution No. R-25-88 adopted by the City on February 9, 1988, as amended and supplemented by Resolution No. R-59-88 adopted by the City on March 22, 1988; Resolution No. R-227-91 adopted by the City on June 25, 1991; Resolution No. R-5-93 adopted by the City on January 5, 1993; amending Resolution No. R-471-92 adopted by the City on October 13, 1992; Resolution No. R-475-93 adopted by the City on October 26, 1993; Resolution No. R-22-97 adopted by the City on January 14, 1997; Resolution No. R-421-98 adopted by the City on October 20, 1998; Resolution No. R-66-01 adopted by the City on February 20, 2001; Resolution No. R-150-01 adopted by the City on March 20, 2001; Resolution No. R-479-01 adopted by the City on October 30, 2001; Resolution No. R-58-04 adopted by the City on March 2, 2004; Resolution No. R-262-05 adopted by the City on July 5, 2005; Resolution No. R-79-06 adopted by the City on February 28, 2006; Resolution No. R-345-07 adopted by the City on August 28, 2007; Resolution No. R-132-210 duly adopted by the City on May 4, 2010; Resolution No. R-333-2010 adopted by the City on November 2, 2010; Resolution No. R-336-2011 adopted by the City on December 13, 2011; Resolution No. R-290-2012 adopted by the City on October 16, 2012; Resolution No. R-322-2012 adopted by the City on November 13, 2012; Resolution No. R-242-2013 adopted by the City on July 23, 2013; Resolution No. R-82-2015 adopted by the City on March 3, 2015; Resolution No. R-315-2016 adopted by the City on June 21, 2016; and Resolution No. R-51-2017 adopted by the City on January 31, 2017. Resolution Nos. R-25-88, R-59-88, R-227-91, R-5-93, R-471-92, R-475-93, R-22-97, R-421-98, R-66-01, R-150-01, R-479-01, R-58-04, R-262-05, R-79-06, R-345-07, R-132-210, R-333-2010, R-336-2011, R-290-2012, R-322-2012, R-242-2013, R-82-2015, R-315-2016 and R-51-2017 are hereinafter sometimes collectively referred to as the "Gas Bond Resolutions". All Gas System Revenue Bonds issued pursuant to such Gas Bond Resolutions are hereinafter referred to as the "Gas System Bonds."

The Water Bonds are being issued pursuant to the Act, the City Charter, other applicable statutes, and pursuant to Resolution No. 2075 duly adopted by the City Council of the City on April 20, 1954, as amended and supplemented by Resolution No. 3633 duly adopted by the City on March 19, 1968; Resolution No. R-26-88 duly adopted by the City on February 9, 1988; Resolution No. R-318-90 duly adopted by the City on October 30, 1990; Resolution No. R-470-92 duly adopted by the City on October 13, 1992; Resolution No. R-474-93 duly adopted by the City on October 26, 1993; Resolution No. R-8-98 duly adopted by the City on January 27, 1998; Resolution No. R-65-01 duly adopted by the City on February 20, 2001; Resolution No. R-151-01 duly adopted by the City on March 20, 2001; Resolution No. R-482-01 duly adopted by the City on October 30, 2001; Resolution No. R-57-04 duly adopted by the City on March 2, 2004; Resolution No. R-263-05 duly adopted by the City on July 5, 2005; Resolution No. R-346-07 duly adopted by the City on August 28, 2007; Resolution No. R-211-09 duly adopted by the City on June 30, 2009; Resolution No. R-133-10 duly adopted by the City on May 4, 2010; Resolution No. R-285-2011 duly adopted by the City on October 4, 2011; Resolution No. R-337-2011 adopted by the City on December 13, 2011; Resolution No. R-323-2012 adopted by the City on November 13, 2012; Resolution No. R-243-2013 adopted by the City on July 23, 2013; Resolution No. R-214-2014 adopted by the City on June 24, 2014; Resolution No. R-83-2015 adopted by the City on March 3, 2015; Resolution No. R-127-2015 adopted by the City on March 31, 2015; Resolution No. R-316-2016 adopted by the City on June 21, 2016; Resolution No. R-318-2016 adopted by the City on June 21, 2016; and Resolution No. R-50-2017 adopted by the City on January 31, 2017. Resolution Nos. 2075, 3633, R-26-88, R-318-90, R-470-92, R-474-93, R-8-98, R-65-01, R-151-01, R-482-01, R-57-04, R-263-05, R-346-07, R-211-09, R-133-10, R-285-2011, R-337-2011, R-323-2012, R-243-2013, R-214-2014, R-83-2015, R-127-2015, R-316-2016, R-318-2016 and R-50-2017 are hereinafter sometimes collectively referred to as the "Water Bond Resolutions." All Water System Revenue Bonds issued pursuant to such Water Bond Resolutions are hereinafter referred to as the "Water System Bonds."

The Wastewater Bonds are being issued pursuant to the Act, the City Charter, other applicable statutes for the purpose of providing funds to pay for the construction of improvements to and extending of the City's Wastewater System, and pursuant to Resolution No. R-129-90 adopted by the City on May 15, 1990, as amended and supplemented by Resolution No. R-130-90 adopted May 15, 1990, Resolution No. R-473-93 adopted by the City on October 26, 1992, Resolution No. R-5-98 adopted by the City on January 27, 1998, and Resolution No. R-67-01 adopted by the City on February 20, 2001; Resolution No. R-148-01 adopted by the City on March 20, 2001; Resolution No. R-481-01 adopted by the City on October 30, 2001; Resolution No. R-56-04 adopted by the City on March 2, 2004; Resolution No. R-264-05 adopted by the City on July 5, 2005; Resolution No. R-347-07 adopted by the City on August 28, 2007; Resolution No. R-252-08 adopted by the City on July 29, 2008; Resolution No. R-11-S adopted by the City on December 15, 2009; Resolution No. R-134-2010 adopted by the City on May 4, 2010; Resolution No. R-334-2010 adopted by the City on November 2, 2010; Resolution No. R-338-2011 adopted by the City on December 13, 2011; Resolution No. R-291-2012 adopted by the City on October 16, 2012; Resolution No. R-324-2012 adopted by the City on November 13, 2012; Resolution No. R-212-2014 adopted by the City on June 24, 2014; Resolution No. R-84-2015 adopted by the City on March 3, 2015; Resolution No. R-128-2015 adopted by the City on March 31, 2015; Resolution No. R-317-2016 adopted by the City on June 21, 2016; and Resolution No. R-49-2017 adopted by the City on January 31, 2017. Resolution Nos. R-129-90, R-130-90, R-473-93, R-5-98, R-67-01, R-148-01, R-481-01, R-56-04, R-264-05, R-347-07, R-252-08, R-11-S, R-134-2010, R-334-2010, R-338-2011, R-291-2012, R-324-2012, R-212-2014, R-84-2015, R-128-2015, R-317-2016 and R-49-2017 are hereinafter sometimes collectively referred to as the "Wastewater Bond Resolutions." All Wastewater System Revenue Bonds issued pursuant to such Wastewater Bond Resolutions are hereinafter referred to as the "Wastewater System Bonds."

*(the balance of this page left blank intentionally)*

The Bonds will be issued in fully registered book-entry-only form without coupons, be dated the date of issuance, be issued, or reissued upon transfer, in $5,000 denominations or multiples thereof, as shall be requested by the purchaser or registered owner thereof, as applicable, and will mature (subject to the right of redemption as hereinafter set forth) and be payable as listed on below:

**ELECTRIC BONDS**

| Maturity (July 1) | Amount* |
|---|---|
| 2017 | $ 455,000 |
| 2018 | 2,385,000 |
| 2019 | 2,420,000 |
| 2020 | 2,455,000 |
| 2021 | 2,490,000 |
| 2022 | 2,530,000 |
| 2023 | 2,575,000 |
| 2024 | 2,630,000 |
| 2025 | 2,690,000 |
| 2026 | 2,750,000 |
| 2027 | 2,820,000 |

**GAS BONDS**

| Maturity (March 1) | Amount* |
|---|---|
| 2018 | $ 895,000 |
| 2019 | 885,000 |
| 2020 | 900,000 |
| 2021 | 910,000 |
| 2022 | 930,000 |
| 2023 | 945,000 |
| 2024 | 960,000 |
| 2025 | 980,000 |
| 2026 | 995,000 |
| 2027 | 1,025,000 |

**WATER BONDS**

| Maturity (March 1) | Amount* |
|---|---|
| 2018 | $ 565,000 |
| 2019 | 555,000 |
| 2020 | 565,000 |
| 2021 | 575,000 |
| 2022 | 590,000 |
| 2023 | 595,000 |
| 2024 | 605,000 |
| 2025 | 615,000 |
| 2026 | 630,000 |
| 2027 | 655,000 |

**WASTEWATER BONDS**

| Maturity (April 1) | Amount* |
|---|---|
| 2018 | $ 1,735,000 |
| 2019 | 1,755,000 |
| 2020 | 1,775,000 |
| 2021 | 1,805,000 |
| 2022 | 1,835,000 |
| 2023 | 1,870,000 |
| 2024 | 640,000 |
| 2025 | 655,000 |
| 2026 | 670,000 |
| 2027 | 685,000 |

*Subject to change

Registration and Depository Participation. The Bonds will be issued by means of a book-entry-only system and no physical distribution of bond certificates will be made to the public. One Bond certificate for each maturity will be issued to the Depository Trust Company, New York, New York ("DTC"), and immobilized in its custody. The book-entry-only system will evidence beneficial ownership interests of the Bonds in the principal amount of $5,000 and any integral multiple of $5,000, with transfers of beneficial ownership interest effected on the records of DTC participants and, if necessary, in turn by DTC pursuant to rules and procedures established by DTC and its participants. The successful bidder, as a condition to delivery of the Bonds, shall be required to deposit the bond certificates with DTC, registered in the name of Cede & Co., nominee of DTC. Interest on the Bonds will be payable semiannually and principal of the Bonds will be payable, at maturity or upon redemption, to DTC or its nominee as registered owner of the Bonds. Transfer of principal and interest payments to participants of DTC will be the responsibility of DTC, and transfer of principal and interest payments to Beneficial Owners of the Bonds by Participants of DTC, will be the responsibility of such participants and of the nominees of Beneficial Owners. Neither the City nor KUB will be responsible or liable for such transfer of payments or for maintaining, supervising or reviewing the records maintained by DTC, its participants or persons acting through such participants.

In the event that the book-entry-only system for the Bonds is discontinued and a successor securities depository is not appointed by the Board, Bond Certificates in fully registered form will be delivered to, and registered in the names of, the DTC participants or such other persons as such DTC participants may specify (which may be the indirect participants or Beneficial Owners), in authorized denominations of $5,000 or integral multiples thereof. The ownership of Bonds so delivered shall be registered in registration books to be kept by the Registration Agent (named herein) at its principal corporate trust office, and KUB and the Registration Agent shall be entitled to treat the registered owners of the Bonds, as their names appear in such registration books as of the appropriate dates, as the owners thereof for all purposes described herein and in the resolutions authorizing the Bonds.

Security Pledged. The Electric Bonds, the Gas Bonds, the Water Bonds and Wastewater Bonds will be issued pursuant to and secured by the Electric Bond Resolutions, the Gas Bonds Resolutions, the Water Bonds Resolutions and the Wastewater Bond Resolutions, respectively, and will be payable solely from the net revenues of the applicable System, as further described herein.

Rate Covenants. The City's bond resolutions require the Board to fix rates and collect charges for services, facilities and commodities furnished by the Systems so as to provide revenues sufficient to pay, as the same shall become due, the necessary expenses of operating and maintaining the Systems as defined below and all other obligations and indebtedness payable out of revenues of the respective Systems.

Purpose. The Bonds are being issued to provide funds to pay the cost of refinancing debt as described in the Preliminary Official Statement of the City relating to the Electric System, the Gas System, Water System and Wastewater System (the "Systems"), and the payment of legal, fiscal, administrative and engineering costs incident thereto and incident to the issuance and sale of the Bonds.

Optional Redemption. The Bonds will not be subject to optional redemption prior to maturity.

Term Bond Option; Mandatory Redemption. Bidders shall have the option to designate certain consecutive serial maturities of the Bonds as one or more term bonds ("Term Bonds") bearing a single interest rate. If the successful bidder for the Bonds designates certain consecutive serial maturities of the Bonds to be combined as one or more Term Bonds as allowed herein, then each Term Bond shall be subject to mandatory sinking fund redemption by the Board at a redemption price equal to one hundred percent (100%) of the principal amount thereof, together with accrued interest to the date fixed for redemption at the rate stated in the Term Bonds to be redeemed. Each such mandatory sinking fund redemption shall be made on the date on which a consecutive maturity included as part of a Term Bond is payable in accordance with the proposal of the successful bidder for the Bonds and in the amount of the maturing principal installment for the Bonds listed herein for such principal payment date. Term Bonds to be redeemed within a single maturity shall be selected in the manner provided above for optional redemption of Bonds within a single maturity.

Bidding Instructions. Bidders are requested to name the interest rate or rates the Bonds are to bear in multiples of one-eighth of one percent and/or one-hundredth of one percent (.01%) or one (1) basis point, but no rate specified shall be in excess of five percent (5.00%) per annum for the Bonds. There will be no limitation on the number of rates of interest that may be specified in a single bid for the Bonds, but a single rate shall apply to all Bonds of a single maturity. Bidders must bid not less than ninety-nine and one-quarter percent (99.25%) of par or more than one hundred and twenty-five percent (125%) of par for all of the Bonds.

Electronic bids for the Bonds must be submitted through BiDCOMP™/PARITY™ and no other provider of electronic bidding services will be accepted. Subscription to i-Deal LLC Dalcomp Division's BiDCOMP™ Competitive Bidding System is required in order to submit an electronic bid. Neither the City nor KUB will not confirm any subscription nor be responsible for the failure of any prospective bidders to subscribe. For the purposes of the bidding process, the time as maintained by BiDCOMP™/PARITY™ shall constitute the official time with respect to all bids whether in electronic or written form. To the extent any instructions or directions set forth in BiDCOMP™/PARITY™ conflict with the terms of this Detailed Notice of Sale, this Notice shall prevail. Electronic bids made through the facilities of BiDCOMP™/PARITY™ shall be deemed an offer to purchase in response to the Detailed Notice of Sale and shall be binding upon the bidders as if made by signed, written bids delivered to KUB. KUB, the Board, the Bond Counsel and the Financial Advisor shall not be responsible for any malfunction or mistake made by or as a result of the use of the electronic bidding facilities provided and maintained by PARITY™. The use of the BiDCOMP™/PARITY™

facilities is at the sole risk of the prospective bidders. For further information regarding PARITY™, potential bidders may contact BiDCOMP™/PARITY™ at 1359 Broadway - 2nd Floor, New York, NY 10018, Telephone: 800-850-7422.

In the event of a system malfunction in the electronic bidding process only, bidders may submit bid(s) prior to the established date and time by FACSIMILE transmission sent to KUB's Financial Advisor, Cumberland Securities Company, Inc. at 865-988-1863. Any facsimile submission is made at the sole risk of the prospective bidder. KUB and the Financial Advisor shall not be responsible for confirming receipt of any facsimile bid or for any malfunction relating to the transmission and receipt of such bids.

Written bids should be submitted by facsimile to the President & CEO of KUB at the offices of KUB's Financial Advisor at 865-988-1863. Written bids must be submitted on the Bid Forms included with the PRELIMINARY OFFICIAL STATEMENT.

KUB reserves the right to reject all bids for the Bonds or any series of the Bonds and to waive any informalities in the bids accepted.

Unless all bids for any series of the Bonds are rejected, each series of the Bonds will be awarded to the bidder(s) whose bid complies with this notice and results in the lowest true interest rate on that series of the Bonds to be calculated as that rate that, when used in computing the present worth of all payments of principal and interest on the Bonds (compounded semi-annually from the date of the Bonds), produces an amount equal to the purchase price of that series of the Bonds exclusive of accrued interest. For purposes of calculating the true interest cost, the principal amount of Term Bonds scheduled for mandatory sinking fund redemption as part of the Term Bond shall be treated as a serial maturity in such year. In the event that two or more bidders offer to purchase a series of the Bonds at the same lowest true interest rate, the President & CEO shall determine in her sole discretion which of the bidders shall be awarded the Bonds.

After receipt of the bids, the Board, or the President and CEO of KUB, as its designee, reserves the right to make adjustments and/or revisions to the Bonds, as described below.

Adjustment and/or Revision. While it is the KUB's intention to sell and issue the approximate par amounts of each respective series of the Bonds as offered herein, there is no guarantee that adjustment and/or revision may not be necessary in order to properly size each series of Bonds. Accordingly, the President and CEO, as the Board's designee, reserves the right, in her sole discretion, to adjust down the original par amount of each series of the bonds by up to twenty-five percent (25.0%). The primary factor that will be considered in adjusting the par amount is the amount of premium, if any, that is bid. Among other factors the President and CEO as its designee, may (but shall be under no obligation to) consider in sizing the par amounts and individual maturities of the Bonds is the size of individual maturities or sinking fund installments and/or other preferences of KUB. KUB also reserves the right to change the dated date of the Bonds. The maximum adjustment will take place only if the maximum bid is received.

Good Faith Deposit. No good faith check will be required to accompany any bid submitted. The successful bidder shall be required to deliver to the KUB's Financial Advisor (wire transfer or certified check) the amount of up to two percent (2%) of the aggregate principal amount of the Bonds offered for sale which will secure the faithful performance of the terms of the bid. A certified check or wire transfer must be received by the KUB's Financial Advisor no later than the close of business on the day following the competitive sale. A wire transfer may be sent to First Tennessee Bank, ABA Number: 084-000-026 First Tenn Mem, FAO Cumberland Securities Company, Inc., Account No. 183302631, for further credit to Good Faith Trust Account.

The good faith deposit shall be applied (without interest) to the purchase price of the Bonds. If the successful bidder(s) should fail to accept or pay for the Bonds when tendered for delivery and payment, the good faith deposit will be retained by KUB as liquidated damages.

In the event of the failure of KUB to deliver the Bonds to the purchaser in accordance with the terms of this Notice within forty-five (45) days after the date of the sale, the good-faith deposit will be promptly returned to the purchaser unless the purchaser directs otherwise.

Reoffering Prices; Other Information. The successful bidders must, by facsimile transmission or electronic delivery, within one (1) hour after receipt of bids for the Bonds, furnish the following information to KUB to complete the OFFICIAL STATEMENT, in final form:

1. The offering prices for the Bonds (expressed as a price or yield per maturity, exclusive of any accrued interest);

2. Selling compensation (aggregate total anticipated compensation to the underwriters expressed in dollars, based on the expectation that all Bonds are sold at the prices or yields as provided above);

3. The identity of the underwriters if the successful bidder(s) is/are part of a group or syndicate; and

4. Any other material information necessary to complete the OFFICIAL STATEMENT, in final form but not known to KUB.

The successful bidders for the Bonds will be required to provide KUB, when applicable, a certificate acceptable to bond counsel setting forth the initial offering price of the Bonds to the public (not including bond houses, brokers, or similar persons or organizations acting in the capacity of underwriters or wholesaler) and certifying that the successful bidder has made a bona fide public offering of those Bonds to the public at the initial offering price and a substantial amount (10%) of each maturity of those Bonds was sold to the public or final purchasers.

Legal Opinion. The approving opinions of Bass, Berry & Sims PLC, Knoxville, Tennessee, Bond Counsel along with other certificates including, but not limited to, tax certificates and a continuing disclosure certificates dated as of the date of delivery of the Bonds will be furnished to the purchases at the expense of KUB. As set forth in the PRELIMINARY OFFICIAL STATEMENT, Bond Counsel's opinion with respect to the Bonds will state that interest on the Bonds will be excluded from gross income for federal income tax purposes and is not an item of tax preference for purposes of the federal law alternative minimum tax imposed on individuals and corporations; however, such interest is taken into account in determining the adjusted current earnings of certain corporations for purposes of the alternative minimum tax on corporations. As set forth in the PRELIMINARY OFFICIAL STATEMENT, the owners of the Bonds, however, may be subject to certain additional taxes or tax consequences arising with respect to ownership of the Bonds, reference is hereby made to the PRELIMINARY OFFICIAL STATEMENT and the form of the opinion contained in Appendix A.

Continuing Disclosure. At the time the Bonds are delivered, KUB will execute a Continuing Disclosure Certificate in which it will covenant for the benefit of holders and Beneficial Owners of the Bonds to provide certain financial information and operating data relating to KUB by not later than twelve months after each of KUB's fiscal years, (the "Annual Report"), and to provide notice of the occurrence of certain enumerated events. The Annual Report (and audited financial statements, if filed separately) will be filed with the Municipal Securities Rulemaking Board (the "MSRB") through the operation of the Electronic Municipal Market Access system (the "EMMA") and any State Information Depository established in the State of Tennessee (the "SID"). If KUB is unable to provide the Annual Report to the MSRB and the SID by the date required, notice of each failure will be sent to the MSRB and the SID on or before such date. The notices of material events will be filed by KUB either with the MSRB and the SID. The specific nature of the information to be contained in the Annual Report or the notices of events will be summarized in KUB's *Official Statement* to be prepared and distributed in connection with the sale of the Bonds.

Delivery of Bonds. Delivery of the Bonds is expected within forty-five (45) days. At least five (5) days' notice will be given the successful bidder. Delivery will be made in book-entry-only form through the facilities of The Depository Trust Company, New York, New York. Payment for the Bonds must be made in *Federal Funds* or other immediately available funds.

CUSIP Numbers. CUSIP numbers will be assigned to the Bonds at the expense of KUB. KUB will assume no obligation for assignment of such numbers or the correctness of such numbers, and neither failure to record such numbers on Bonds nor any error with respect thereto shall constitute cause for failure or refusal by the purchaser thereof to accept delivery of and make payment for the Bonds.

Official Statements; Other. The Board has deemed the PRELIMINARY OFFICIAL STATEMENT to be final as of its date within the meaning of Rule 15c2-12 of the Securities and Exchange Commission (the "SEC") except for the omission of certain pricing and other information. KUB will furnish the successful bidder(s) at the expense of KUB a reasonable number of copies of *Official Statement* in final form, containing the pricing and other information to be supplied by the successful bidder and to be dated the date of the sale, to be delivered by the successful bidder to the persons to whom such bidder(s) and members of its bidding group initially sell the Bonds. Acceptance of the bid will constitute a contract between KUB and the successful bidder for the provision of such copies within seven business days of the sale date.

Further Information. Additional information, including the *Preliminary Official Statement*, the Detailed Notice of Sale and the Official Bid Form, may be obtained from munihub at (www.prospectushub.com) or KUB's Financial Advisor, Cumberland Securities Company, Inc., Knoxville, Tennessee, Telephone: 865-988-2663. Further information regarding ***BiDCOMP™/PARITY™*** may be obtained from ***BiDCOMP™/PARITY™***, 1359 Broadway - 2nd Floor, New York, NY 10018, Telephone: 800.850.7422.

CITY OF KNOXVILLE, TENNESSEE
By and Through
KNOXVILLE UTILITIES BOARD

By: Mintha E. Roach
President & CEO
Knoxville Utilities Board

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# BID FORM – ELECTRIC BONDS

Ms. Mintha Roach, President & CEO
Knoxville Utilities Board
445 Gay Street
Knoxville, Tennessee 37902

March 8, 2017

Dear Ms. Roach:

For your legally issued, properly executed $26,200,000* Electric System Revenue Refunding Bonds, Series HH-2017 ("Electric Bonds" or "Series HH-2017 Bonds") of the City of Knoxville, Tennessee, in all respects as more fully outlined in your Notices of Sale, which by reference are made a part hereof, we will pay you a sum of ________________________________ ____________________ ($______________________).

The Electric Bonds shall be dated the date of issuance (assume April 7, 2017) and shall be callable in accordance with the DETAILED NOTICE OF SALE. The Electric Bonds shall mature on July 1 and bear interest at the following rates:

| Maturity (July 1) | Amount* | Rate |
|---|---|---|
| 2017 | $ 455,000 | ________ |
| 2018 | 2,385,000 | ________ |
| 2019 | 2,420,000 | ________ |
| 2020 | 2,455,000 | ________ |
| 2021 | 2,490,000 | ________ |
| 2022 | 2,530,000 | ________ |
| 2023 | 2,575,000 | ________ |
| 2024 | 2,630,000 | ________ |
| 2025 | 2,690,000 | ________ |
| 2026 | 2,750,000 | ________ |
| 2027 | 2,820,000 | ________ |

We have the option to designate two or more consecutive serial maturities as term bond maturities as indicated:

Term Bond 1 includes the following maturities: From July 1, 20__ to July 1, 20__; at the rate of ____%.
Term Bond 2 includes the following maturities: From July 1, 20__ to July 1, 20__; at the rate of ____%.
Term Bond 3 includes the following maturities: From July 1, 20__ to July 1, 20__; at the rate of ____%.
Term Bond 4 includes the following maturities: From July 1, 20__ to July 1, 20__; at the rate of ____%.
Term Bond 5 includes the following maturities: From July 1, 20__ to July 1, 20__; at the rate of ____%.
Term Bond 6 includes the following maturities: From July 1, 20__ to July 1, 20__; at the rate of ____%.

It is our understanding that the Electric Bonds are offered for sale subject to the final approving opinion of Bass, Berry & Sims PLC, Knoxville, Tennessee, as Bond Counsel, whose opinion together with the executed Electric Bonds will be furnished by KUB without cost to us.

If our bid is accepted, we agree to provide a good faith deposit of up to 2% of the Electric Bonds on which we have bid by the close of business on the day following the competitive public sale. Should for any reason we fail to comply with the terms of this bid, this good faith deposit shall be forfeited by us as full liquidated damages. Otherwise, this good faith deposit shall be applied to the purchase price of the Electric Bonds on which we have bid.

Very truly yours,

ACCEPTED this 8th day of March, 2017,
by the Knoxville Utilities Board.

______________________________
(Name)

______________________________
(Firm)

______________________________
Mintha Roach, President & CEO

______________________________
(Mailing Address)

______________________________
Mark Walker, Senior Vice President & CFO

(_____)______________________________

Total interest cost from date of bonds to maturity........................................ $______________
Less premium bid, if any, or plus discount, if any........................................ $______________
Net Interest Cost........................................ $______________
True Interest Rate........................................ ______________% (four decimals)

*The above computations of net interest cost and true interest rate are for comparison purposes only and are not to be considered as part of this proposal.*

*Subject to change.

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# BID FORM – GAS BONDS

Ms. Mintha Roach, President & CEO
Knoxville Utilities Board
445 Gay Street
Knoxville, Tennessee 37902

March 8, 2017

Dear Ms. Roach:

For your legally issued, properly executed $9,425,000* Gas System Revenue Refunding Bonds, Series W-2017 ("Gas Bonds" or "Series W-2017 Bonds") of the City of Knoxville, Tennessee, in all respects as more fully outlined in your Notices of Sale, which by reference are made a part hereof, we will pay you a sum of ______________________________ __________________ ($____________________).

The Gas Bonds shall be dated the date of issuance (assume April 7, 2017) and shall be callable in accordance with the DETAILED NOTICE OF SALE. The Gas Bonds shall mature on March 1 and bear interest at the following rates:

| Maturity (March 1) | Amount* | Rate |
|---|---|---|
| 2018 | $ 895,000 | ________ |
| 2019 | 885,000 | ________ |
| 2020 | 900,000 | ________ |
| 2021 | 910,000 | ________ |
| 2022 | 930,000 | ________ |
| 2023 | 945,000 | ________ |
| 2024 | 960,000 | ________ |
| 2025 | 980,000 | ________ |
| 2026 | 995,000 | ________ |
| 2027 | 1,025,000 | ________ |

We have the option to designate two or more consecutive serial maturities as term bond maturities as indicated:

Term Bond 1 includes the following maturities: From March 1, 20__ to March 1, 20__; at the rate of ____%.
Term Bond 2 includes the following maturities: From March 1, 20__ to March 1, 20__; at the rate of ____%.
Term Bond 3 includes the following maturities: From March 1, 20__ to March 1, 20__; at the rate of ____%.
Term Bond 4 includes the following maturities: From March 1, 20__ to March 1, 20__; at the rate of ____%.
Term Bond 5 includes the following maturities: From March 1, 20__ to March 1, 20__; at the rate of ____%.

It is our understanding that the Gas Bonds are offered for sale subject to the final approving opinion of Bass, Berry & Sims PLC, Knoxville, Tennessee, as Bond Counsel, whose opinion together with the executed Gas Bonds will be furnished by KUB without cost to us.

If our bid is accepted, we agree to provide a good faith deposit of up to 2% of the Gas Bonds on which we have bid by the close of business on the day following the competitive public sale. Should for any reason we fail to comply with the terms of this bid, this good faith deposit shall be forfeited by us as full liquidated damages. Otherwise, this good faith deposit shall be applied to the purchase price of the Gas Bonds on which we have bid.

Very truly yours,

ACCEPTED this 8th day of March, 2017,
by the Knoxville Utilities Board.

______________________________
(Name)

______________________________
(Firm)

______________________________
Mintha Roach, President & CEO

______________________________
(Mailing Address)

(______)______________________________

______________________________
Mark Walker, Senior Vice President & CFO

Total interest cost from date of bonds to maturity........ $____________
Less premium bid, if any, or plus discount, if any........ $____________
Net Interest Cost........ $____________
True Interest Rate........ ____________% (four decimals)

*The above computations of net interest cost and true interest rate are for comparison purposes only and are not to be considered as part of this proposal.*

*Subject to change.

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## BID FORM –WATER BONDS

Ms. Mintha Roach, President & CEO
Knoxville Utilities Board
445 Gay Street
Knoxville, Tennessee 37902

March 8, 2017

Dear Ms. Roach:

For your legally issued, properly executed $5,950,000* Water System Revenue Refunding Bonds, Series FF-2017 ("Water Bonds" or "Series FF-2017 Water Bonds") of the City of Knoxville, Tennessee, in all respects as more fully outlined in your Notices of Sale, which by reference are made a part hereof, we will pay you a sum of ________________________________ ____________________ ($_____________________).

The Water Bonds shall be dated the date of issuance (assume April 7, 2017) and shall be callable in accordance with the DETAILED NOTICE OF SALE. The Water Bonds shall mature on March 1 and bear interest at the following rates:

| **Maturity (March 1)** | **Amount*** | **Rate** |
|---|---|---|
| 2018 | $ 565,000 | ________ |
| 2019 | 555,000 | ________ |
| 2020 | 565,000 | ________ |
| 2021 | 575,000 | ________ |
| 2022 | 590,000 | ________ |
| 2023 | 595,000 | ________ |
| 2024 | 605,000 | ________ |
| 2025 | 615,000 | ________ |
| 2026 | 630,000 | ________ |
| 2027 | 655,000 | ________ |

We have the option to designate two or more consecutive serial maturities as term bond maturities as indicated:
Term Bond 1 includes the following maturities: From March 1, 20__ to March 1, 20__; at the rate of ____%.
Term Bond 2 includes the following maturities: From March 1, 20__ to March 1, 20__; at the rate of ____%.
Term Bond 3 includes the following maturities: From March 1, 20__ to March 1, 20__; at the rate of ____%.
Term Bond 4 includes the following maturities: From March 1, 20__ to March 1, 20__; at the rate of ____%.
Term Bond 5 includes the following maturities: From March 1, 20__ to March 1, 20__; at the rate of ____%.

It is our understanding that the Water Bonds are offered for sale subject to the final approving opinion of Bass, Berry & Sims PLC, Knoxville, Tennessee, as Bond Counsel, whose opinion together with the executed Water Bonds will be furnished by KUB without cost to us.

If our bid is accepted, we agree to provide a good faith deposit of up to 2% of the Water Bonds on which we have bid by the close of business on the day following the competitive public sale. Should for any reason we fail to comply with the terms of this bid, this good faith deposit shall be forfeited by us as full liquidated damages. Otherwise, this good faith deposit shall be applied to the purchase price of the Water Bonds on which we have bid.

Very truly yours,

ACCEPTED this 8th day of March, 2017,
by the Knoxville Utilities Board.

______________________________________________
(Name)

______________________________
(Firm)

______________________________
Mintha Roach, President & CEO

______________________________
(Mailing Address)

______________________________
Mark Walker, Senior Vice President & CFO

(______)______________________________

Total interest cost from date of bonds to maturity.................................... $_____________
Less premium bid, if any, or plus discount, if any.................................... $_____________
Net Interest Cost.................................... $_____________
True Interest Rate.................................... _____________% (four decimals)

*The above computations of net interest cost and true interest rate are for comparison purposes only and are not to be considered as part of this proposal.*

*Subject to change.

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# BID FORM – WASTEWATER BONDS

Ms. Mintha Roach, President & CEO
Knoxville Utilities Board
445 Gay Street
Knoxville, Tennessee 37902

March 8, 2017

Dear Ms. Roach:

For your legally issued, properly executed the $13,425,000* Wastewater System Revenue Refunding Bonds, Series 2017A ("Wastewater Bonds" or "Series 2017A Bonds") of the City of Knoxville, Tennessee, in all respects as more fully outlined in your Notices of Sale, which by reference are made a part hereof, we will pay you a sum of ________________________________ ____________________ ($______________________).

The Wastewater Bonds shall be dated the date of issuance (assume April 7, 2017) and shall be callable in accordance with the DETAILED NOTICE OF SALE. The Wastewater Bonds shall mature on April 1 and bear interest at the following rates:

| Maturity (April 1) | Amount* | Rate |
|---|---|---|
| 2018 | $ 1,735,000 | ________ |
| 2019 | 1,755,000 | ________ |
| 2020 | 1,775,000 | ________ |
| 2021 | 1,805,000 | ________ |
| 2022 | 1,835,000 | ________ |
| 2023 | 1,870,000 | ________ |
| 2024 | 640,000 | ________ |
| 2025 | 655,000 | ________ |
| 2026 | 670,000 | ________ |
| 2027 | 685,000 | ________ |

We have the option to designate two or more consecutive serial maturities as term bond maturities as indicated:

Term Bond 1 includes the following maturities: From April 1, 20__ to April 1, 20__; at the rate of ____%.
Term Bond 2 includes the following maturities: From April 1, 20__ to April 1, 20__; at the rate of ____%.
Term Bond 3 includes the following maturities: From April 1, 20__ to April 1, 20__; at the rate of ____%.
Term Bond 4 includes the following maturities: From April 1, 20__ to April 1, 20__; at the rate of ____%.
Term Bond 5 includes the following maturities: From April 1, 20__ to April 1, 20__; at the rate of ____%.

It is our understanding that the Wastewater Bonds are offered for sale subject to the final approving opinion of Bass, Berry & Sims PLC, Knoxville, Tennessee, as Bond Counsel, whose opinion together with the executed Wastewater Bonds will be furnished by KUB without cost to us.

If our bid is accepted, we agree to provide a good faith deposit of up to 2% of the Wastewater Bonds on which we have bid by the close of business on the day following the competitive public sale. Should for any reason we fail to comply with the terms of this bid, this good faith deposit shall be forfeited by us as full liquidated damages. Otherwise, this good faith deposit shall be applied to the purchase price of the Wastewater Bonds on which we have bid.

Very truly yours,

ACCEPTED this 8th day of March, 2017,
by the Knoxville Utilities Board.

________________________________
(Name)

________________________________
(Firm)

________________________________
Mintha Roach, President & CEO

________________________________
(Mailing Address)

(______) ________________________________

________________________________
Mark Walker, Senior Vice President & CFO

Total interest cost from date of bonds to maturity ........ $____________
Less premium bid, if any, or plus discount, if any ........ $____________
Net Interest Cost ........ $____________
True Interest Rate ........ ____________% (four decimals)

*The above computations of net interest cost and true interest rate are for comparison purposes only and are not to be considered as part of this proposal.*

*Subject to change.

# $55,000,000*
# CITY OF KNOXVILLE, TENNESSEE
## $26,200,000* Electric System Revenue Refunding Bonds, Series HH-2017
## $9,425,000* Gas System Revenue Refunding Bonds, Series W-2017
## $5,950,000* Water System Revenue Refunding Bonds, Series FF-2017
## $13,425,000* Wastewater System Revenue Refunding Bonds, Series 2017A

## SECURITIES OFFERED

### AUTHORITY AND PURPOSE

This PRELIMINARY OFFICIAL STATEMENT, which includes the cover page and "Summary Statement" hereof and the appendices hereto, is furnished in connection with the offering by the City of Knoxville, Tennessee (the "City") of its $26,200,000* Electric System Revenue Refunding Bonds, Series HH-2017 ("Electric Bonds" or "Series HH-2017 Bonds"), $9,425,000* Gas System Revenue Refunding Bonds, Series W-2017 ("Gas Bonds" or "Series W-2017 Bonds"), $5,950,000* Water System Revenue Refunding Bonds, Series FF-2017 ("Water Bonds" or "Series FF-2017 Water Bonds"), and the $13,425,000* Wastewater System Revenue Refunding Bonds, Series 2017A ("Wastewater Bonds" or "Series 2017A Bonds"). The Electric Bonds, the Gas Bonds, the Water Bonds and the Wastewater Bonds will be collectively referred to as the "Bonds".

The Electric Bonds are being issued pursuant to Chapter 34, Title 7, and Chapter 21, Title 9, *Tennessee Code Annotated,* as amended (the "Act"), the Charter of the City (the "City Charter"), other applicable statutes, and pursuant to Resolution No. 1644 adopted by the City on January 4, 1949 as amended and supplemented by Resolution No. 2171 adopted February 22, 1955; Resolution No. 3491 adopted by the City on February 21, 1967; Resolution R-317-90 adopted by the City on October 30, 1990; Resolution No. R-469-92 adopted by the City on October 13, 1992; Resolution No. R-472-93 adopted by the City on October 26, 1993; Resolution No. R-95-95 adopted by the City on February 28, 1995; Resolution No. R-422-98 adopted by the City on October 20, 1998; Resolution No. R-64-01 adopted by the City on February 20, 2001; Resolution No. R-148-01 adopted by the City on March 20, 2001; Resolution No. R-480-01 adopted by the City on October 30, 2001; Resolution No. R-59-04 adopted by the City on March 2, 2004; Resolution No. R-261-05 adopted by the City on July 5, 2005; Resolution No. R-78-06 adopted by the City on February 28, 2006; Resolution No. R-251-08 adopted by the City on July 29, 2008; Resolution No. R-332-2010 adopted by the City on November 2, 2010; Resolution No. R-335-2011 adopted by the City on December 13, 2011; Resolution No. R-289-2012 adopted by the City on October 16, 2012; Resolution No. R-321-2012 adopted by the City on November 13, 2012; Resolution No. R-213-2014 adopted by the City on June 24, 2014; Resolution No. R-81-2015 adopted by the City on March 3, 2015; Resolution No. R-129-2015 adopted by the City on March 31, 2015; Resolution No. R-314-2016 adopted by the City on June 21, 2016; and Resolution No. R-52-2017 adopted by the City on January 31, 2017. Resolution Nos. 1644, 2171, 3491, R-317-90, R-469-92, R-472-93, R-95-95, R-422-98, R-64-01, R-148-01, R-480-01, R-59-04, R-261-05, R-78-06, R-251-08, R-332-2010, R-335-2011, R-289-2012, R-321-2012, R-213-2014, R-81-2015, R-129-2015, R-314-2016 and R-52-2017 are hereinafter sometimes collectively referred to as the "Electric Bond Resolutions." All Electric System Revenue Bonds issued pursuant to such Electric Bond Resolutions are hereinafter referred to as the "Electric System Bonds."

The Gas Bonds are being issued pursuant to the Act, the City Charter, other applicable statutes, and pursuant to Resolution No. R-25-88 adopted by the City on February 9, 1988, as amended and supplemented by Resolution No. R-59-88 adopted by the City on March 22, 1988; Resolution No. R-227-91 adopted by the City on June 25, 1991; Resolution No. R-5-93 adopted by the City on January 5, 1993; amending Resolution No. R-471-92 adopted by the City on October 13, 1992; Resolution No. R-475-93 adopted by the City on October 26, 1993;

Resolution No. R-22-97 adopted by the City on January 14, 1997; Resolution No. R-421-98 adopted by the City on October 20, 1998; Resolution No. R-66-01 adopted by the City on February 20, 2001; Resolution No. R-150-01 adopted by the City on March 20, 2001; Resolution No. R-479-01 adopted by the City on October 30, 2001; Resolution No. R-58-04 adopted by the City on March 2, 2004; Resolution No. R-262-05 adopted by the City on July 5, 2005; Resolution No. R-79-06 adopted by the City on February 28, 2006; Resolution No. R-345-07 adopted by the City on August 28, 2007; Resolution No. R-132-210 duly adopted by the City on May 4, 2010; Resolution No. R-333-2010 adopted by the City on November 2, 2010; Resolution No. R-336-2011 adopted by the City on December 13, 2011; Resolution No. R-290-2012 adopted by the City on October 16, 2012; Resolution No. R-322-2012 adopted by the City on November 13, 2012; Resolution No. R-242-2013 adopted by the City on July 23, 2013; Resolution No. R-82-2015 adopted by the City on March 3, 2015; Resolution No. R-315-2016 adopted by the City on June 21, 2016; and Resolution No. R-51-2017 adopted by the City on January 31, 2017. Resolution Nos. R-25-88, R-59-88, R-227-91, R-5-93, R-471-92, R-475-93, R-22-97, R-421-98, R-66-01, R-150-01, R-479-01, R-58-04, R-262-05, R-79-06, R-345-07, R-132-210, R-333-2010, R-336-2011, R-290-2012, R-322-2012, R-242-2013, R-82-2015, R-315-2016 and R-51-2017 are hereinafter sometimes collectively referred to as the “Gas Bond Resolutions”. All Gas System Revenue Bonds issued pursuant to such Gas Bond Resolutions are hereinafter referred to as the “Gas System Bonds.”

The Water Bonds are being issued pursuant to the Act, the City Charter, other applicable statutes, and pursuant to Resolution No. 2075 duly adopted by the City Council of the City on April 20, 1954, as amended and supplemented by Resolution No. 3633 duly adopted by the City on March 19, 1968; Resolution No. R-26-88 duly adopted by the City on February 9, 1988; Resolution No. R-318-90 duly adopted by the City on October 30, 1990; Resolution No. R-470-92 duly adopted by the City on October 13, 1992; Resolution No. R-474-93 duly adopted by the City on October 26, 1993; Resolution No. R-8-98 duly adopted by the City on January 27, 1998; Resolution No. R-65-01 duly adopted by the City on February 20, 2001; Resolution No. R-151-01 duly adopted by the City on March 20, 2001; Resolution No. R-482-01 duly adopted by the City on October 30, 2001; Resolution No. R-57-04 duly adopted by the City on March 2, 2004; Resolution No. R-263-05 duly adopted by the City on July 5, 2005; Resolution No. R-346-07 duly adopted by the City on August 28, 2007; Resolution No. R-211-09 duly adopted by the City on June 30, 2009; Resolution No. R-133-10 duly adopted by the City on May 4, 2010; Resolution No. R-285-2011 duly adopted by the City on October 4, 2011; Resolution No. R-337-2011 adopted by the City on December 13, 2011; Resolution No. R-323-2012 adopted by the City on November 13, 2012; Resolution No. R-243-2013 adopted by the City on July 23, 2013; Resolution No. R-214-2014 adopted by the City on June 24, 2014; Resolution No. R-83-2015 adopted by the City on March 3, 2015; Resolution No. R-127-2015 adopted by the City on March 31, 2015; Resolution No. R-316-2016 adopted by the City on June 21, 2016; Resolution No. R-318-2016 adopted by the City on June 21, 2016; and Resolution No. R-50-2017 adopted by the City on January 31, 2017. Resolution Nos. 2075, 3633, R-26-88, R-318-90, R-470-92, R-474-93, R-8-98, R-65-01, R-151-01, R-482-01, R-57-04, R-263-05, R-346-07, R-211-09, R-133-10, R-285-2011, R-337-2011, R-323-2012, R-243-2013, R-214-2014, R-83-2015, R-127-2015, R-316-2016, R-318-2016 and R-50-2017 are hereinafter sometimes collectively referred to as the “Water Bond Resolutions.” All Water System Revenue Bonds issued pursuant to such Water Bond Resolutions are hereinafter referred to as the “Water System Bonds.”

The Wastewater Bonds are being issued pursuant to the Act, the City Charter, other applicable statutes for the purpose of providing funds to pay for the construction of improvements to and extending of the City’s Wastewater System, and pursuant to Resolution No. R-129-90 adopted by the City on May 15, 1990, as amended and supplemented by Resolution No. R-130-90 adopted May 15, 1990, Resolution No. R-473-93 adopted by the City on October 26, 1992, Resolution No. R-5-98 adopted by the City on January 27, 1998, and Resolution No. R-67-01 adopted by the City on February 20, 2001; Resolution No. R-148-01 adopted by the City on March 20, 2001; Resolution No. R-481-01 adopted by the City on October 30, 2001; Resolution No. R-56-04 adopted by the City on March 2, 2004; Resolution No. R-264-05 adopted by the City on July 5, 2005; Resolution No. R-347-07 adopted by the City on August 28, 2007; Resolution No. R-252-08 adopted by the City on July 29, 2008; Resolution No. R-11-S adopted by the City on December 15, 2009; Resolution No. R-134-2010 adopted by the City on May 4, 2010; Resolution No. R-334-2010 adopted by the City on November 2, 2010; Resolution No. R-338-2011 adopted by the City on December 13, 2011; Resolution No. R-291-2012 adopted by the City on October 16, 2012; Resolution No. R-324-2012 adopted by the City on November 13, 2012; Resolution No. R-212-2014 adopted by the City on June

24, 2014; Resolution No. R-84-2015 adopted by the City on March 3, 2015; Resolution No. R-128-2015 adopted by the City on March 31, 2015; Resolution No. R-317-2016 adopted by the City on June 21, 2016; and Resolution No. R-49-2017 adopted by the City on January 31, 2017. Resolution Nos. R-129-90, R-130-90, R-473-93, R-5-98, R-67-01, R-148-01, R-481-01, R-56-04, R-264-05, R-347-07, R-252-08, R-11-S, R-134-2010, R-334-2010, R-338-2011, R-291-2012, R-324-2012, R-212-2014, R-84-2015, R-128-2015, R-317-2016 and R-49-2017 are hereinafter sometimes collectively referred to as the "Wastewater Bond Resolutions." All Wastewater System Revenue Bonds issued pursuant to such Wastewater Bond Resolutions are hereinafter referred to as the "Wastewater System Bonds."

In 1939 the City Charter was amended to create the Knoxville Electric Power and Water Board which name was changed in 1947 to the Knoxville Utilities Board ("KUB"). KUB provides electric, gas, water and wastewater utility services through separate City owned electric, gas, water, and wastewater systems (the "Systems"), and is governed by a seven-member Board of Commissioners (the "Board").

The Bonds are being issued to provide funds to refinance certain outstanding debt of the Electric System, the Gas System, the Water System and the Wastewater System (collectively, the "Systems") as outlined below, and the payment of legal, fiscal, administrative and engineering costs incident thereto and incident to the issuance and sale of the Bonds.

## PLAN OF REFUNDING

The Electric Bonds are being issued to refinance the outstanding Electric System Revenue Refunding Bonds, Series W-2005, dated August 10, 2005, maturing July 1, 2018 and thereafter (the "Refunded Electric Bonds") to the July 1, 2017 redemption date of par plus accrued interest.

The Gas Bonds are being issued to refinance the outstanding Gas System Revenue Refunding Bonds, Series L-2005, dated August 10, 2005, maturing March 1, 2018 and thereafter (the "Refunded Gas Bonds") to the April 7, 2017 redemption date of par plus accrued interest.

The Water Bonds are being issued to refinance the outstanding Water System Revenue Refunding Bonds, Series S-2005, dated August 10, 2005, maturing March 1, 2018 and thereafter (the "Refunded Water Bonds") to the April 7, 2017 redemption date of par plus accrued interest.

The Wastewater Bonds are being issued to refinance the outstanding Wastewater System Revenue Refunding Bonds, Series 2005B, dated August 10, 2005, maturing April 1, 2018 and thereafter (the "Refunded Wastewater Bonds") to the April 7, 2017 redemption date of par plus accrued interest.

As required by Title 9, Chapter 21, Part 9 of *Tennessee Code Annotated* as supplemented and revised, a plan of refunding (the "Plan") for the Refunded Water Bonds was submitted to the Director of the Office of State and Local Finance for review and that office's report on the Plan was submitted to the City and KUB. For more information, see the section entitled "BASIC DOCUMENTATION" for additional information.

## DESCRIPTION OF THE BONDS

### General Terms

The Bonds will be initially dated the date of issuance (assume April 7, 2017) and will be issued in book-entry-only form, without coupons, in denominations of $5,000 each and integral multiples thereof.

The Electric Bonds will bear interest from their dated date at the rate or rates per annum set forth on the inside cover page hereof, such interest (computed on the basis of a 360-day year of twelve 30-day months) being payable semi-annually on the first days of July and January of each year, commencing on July 1, 2017.

The Gas Bonds will bear interest from their dated date at the rate or rates per annum set forth on the inside cover page hereof, such interest (computed on the basis of a 360-day year of twelve 30-day months) being payable semi-annually on the first days of March and September of each year, commencing on September 1, 2017.

The Water Bonds will bear interest from their dated date at the rate or rates per annum set forth on the inside cover page hereof, such interest (computed on the basis of a 360-day year of twelve 30-day months) being payable semi-annually on the first days of March and September of each year, commencing on September 1, 2017.

The Wastewater Bonds will bear interest from their dated date at the rate or rates per annum set forth on the inside cover page hereof, such interest (computed on the basis of a 360-day year of twelve 30-day months) being payable semi-annually on the first days of April and October of each year, commencing on October 1, 2017.

The Bonds will be initially registered only in the name of Cede & Co., as nominee of The Depository Trust Company, New York, New York ("DTC"), which will act as securities depository for the Bonds. Regions Bank, Nashville, Tennessee (the "Registration Agent") will make all interest payments with respect to the Bonds on each interest payment date directly to Cede & Co., as nominee of DTC, the registered owner as shown on the Bond registration records maintained by the Registration Agent as of the close of business on the fifteenth day of the month next preceding the interest payment date (the "Regular Record Date") by check or draft mailed to such owner at its address shown on said Bond registration records, without, except for final payment, the presentation or surrender of such registered Bonds, and all such payments shall discharge the obligations of KUB in respect of such Bonds to the extent of the payments so made. Payment of principal of the Bonds shall be made upon presentation and surrender of such Bonds to the Registration Agent as the same shall become due and payable.

Any interest on any Bond which is payable but is not punctually paid or duly provided for on any interest payment date (hereinafter "Defaulted Interest") shall forthwith cease to be payable to the registered owner on the relevant Regular Record Date; and, in lieu thereof, such Defaulted Interest shall be paid by KUB to the persons in whose names the Bonds are registered at the close of business on a date (the "Special Record Date") for the payment of such Defaulted Interest, which shall be fixed in the following manner: KUB shall notify the Registration Agent in writing of the amount of Defaulted Interest proposed to be paid on each Bond and the date of the proposed payment, and at the same time KUB shall deposit with the Registration Agent an amount of money equal to the aggregate amount proposed to be paid in respect of such Defaulted Interest or shall make arrangements satisfactory to the Registration Agent for such deposit prior to the date of the proposed payment, such money when deposited to be held in trust for the benefit of the persons entitled to such Defaulted Interest. Thereupon, not less than ten (10) days after the receipt by the Registration Agent of the notice of the proposed payment, the Registration Agent shall fix a Special Record Date for the payment of such Defaulted Interest which date shall be not more than fifteen (15) nor less than ten (10) days prior to the date of the proposed payment to the registered owners. The Registration Agent shall promptly notify KUB of such Special Record Date and, in the name and at the expense of KUB, not less than ten (10) days prior to such Special Record Date, shall cause notice of the proposed payment of such Defaulted Interest and the Special Record Date therefor to be mailed, first class postage prepaid, to each registered owner at the address thereof as it appears in the Bond registration records maintained by the Registration Agent as of the date of such notice. Nothing contained in the Electric Bond Resolutions, Gas Bond Resolutions, Water Bond Resolutions, or Wastewater Bond Resolutions (the "Resolutions") or in the Bonds shall impair any statutory or other rights in law or in equity of any registered owner arising as a result of the failure of KUB to punctually pay or duly provide for the payment of principal of, premium, if any, and interest on the Bonds when due.

So long as Cede & Co. is the Registered Owner of the Bonds, as nominee of DTC, references herein to the Bondholders, Holders or Registered Owners of the Bonds shall mean Cede & Co. and shall not mean the Beneficial Owners of the Bonds. See "The Book-Entry-Only System."

### Optional Redemption

The Bonds will not be subject to optional redemption prior to maturity.

**Mandatory Redemption Of The Bonds**

*Electric Bonds.* Subject to the credit hereinafter provided, the City, acting by and through KUB, shall redeem Electric Bonds maturing July 1, 20___ on the redemption dates set forth on the following table the maturity dates, in aggregate principal amounts equal to the respective dollar amounts set forth below opposite the respective redemption dates at a price of par plus accrued interest thereon to the date of redemption. DTC, as securities depository for the Electric Bonds or such Person as shall then be serving as the securities depository for the Bonds, shall determine the interest of each Participant in the Electric Bonds to be redeemed using its procedures generally in use at that time. If DTC, or another securities depository is no longer serving as securities depository for the Electric Bonds, the Electric Bonds to be redeemed within a maturity shall be selected by the Registration Agent by lot or such other random manner as the Registration Agent in its discretion shall select. The dates of redemption and principal amount of Electric Bonds to be redeemed on said dates are as follows:

| Final Maturity | Redemption Date | Principal Amount of Electric Bonds Redeemed |
|---|---|---|

*Final Maturity of Electric Bonds

*Gas Bonds.* Subject to the credit hereinafter provided, the City, acting by and through KUB, shall redeem Gas Bonds maturing March 1, 20__ on the redemption dates set forth on the following table the maturity dates, in aggregate principal amounts equal to the respective dollar amounts set forth below opposite the respective redemption dates at a price of par plus accrued interest thereon to the date of redemption. DTC, as securities depository for the Gas Bonds or such Person as shall then be serving as the securities depository for the Bonds, shall determine the interest of each Participant in the Gas Bonds to be redeemed using its procedures generally in use at that time. If DTC, or another securities depository is no longer serving as securities depository for the Gas Bonds, the Gas Bonds to be redeemed within a maturity shall be selected by the Registration Agent by lot or such other random manner as the Registration Agent in its discretion shall select. The dates of redemption and principal amount of Gas Bonds to be redeemed on said dates are as follows:

| Final Maturity | Redemption Date | Principal Amount of Gas Bonds Redeemed |
|---|---|---|

*Final Maturity of Gas Bonds

*Water Bonds.* Subject to the credit hereinafter provided, the City, acting by and through KUB, shall redeem Water Bonds maturing March 1, 20__ on the redemption dates set forth on the following table the maturity dates, in aggregate principal amounts equal to the respective dollar amounts set forth below opposite the respective redemption dates at a price of par plus accrued interest thereon to the date of redemption. DTC, as securities depository for the Water Bonds or such Person as shall then be serving as the securities depository for the Bonds, shall determine the interest of each Participant in the Water Bonds to be redeemed using its procedures generally in use at that time. If DTC, or another securities depository is no longer serving as securities depository for the Water Bonds, the Water Bonds to be redeemed within a maturity shall be selected by the Registration Agent by lot or such other random manner as the Registration Agent in its discretion shall select. The dates of redemption and principal amount of Water Bonds to be redeemed on said dates are as follows:

| Final Maturity | Redemption Date | Principal Amount of Water Bonds Redeemed |
|---|---|---|

*Final Maturity of Water Bonds

*Wastewater Bonds.* Subject to the credit hereinafter provided, the City, acting by and through KUB, shall redeem Wastewater Bonds maturing April 1, 20__ on the redemption dates set forth on the following table the maturity dates, in aggregate principal amounts equal to the respective dollar amounts set forth below opposite the respective redemption dates at a price of par plus accrued interest thereon to the date of redemption. DTC, as securities depository for the Wastewater Bonds or such Person as shall then be serving as the securities depository for the Bonds, shall determine the interest of each Participant in the Wastewater Bonds to be redeemed using its procedures generally in use at that time. If DTC, or another securities depository is no longer serving as securities depository for the Wastewater Bonds, the Wastewater Bonds to be redeemed within a maturity shall be selected by the Registration Agent by lot or such other random manner as the Registration Agent in its discretion shall select. The dates of redemption and principal amount of Wastewater Bonds to be redeemed on said dates are as follows:

| Final Maturity | Redemption Date | Principal Amount of Wastewater Bonds Redeemed |
|---|---|---|

*Final Maturity of Wastewater Bonds

At its option, to be exercised on or before the forty-fifth (45th) day next preceding any such redemption date, the City, acting by and through KUB, may (i) deliver to the Registration Agent for cancellation Bonds of the applicable series to be redeemed, in any aggregate principal amount desired, and/or (ii) receive a credit in respect of its redemption obligation under this mandatory redemption provision for any Bonds of the maturity to be redeemed which prior to said date have been purchased or redeemed (otherwise than through the operation of this mandatory sinking fund redemption provision) and canceled by the Registration Agent and not theretofore applied as a credit against any redemption obligation under this mandatory sinking fund provision. Each Bond so delivered or previously purchased or redeemed shall be credited by the Registration Agent at 100% of the principal amount thereof on the obligation of KUB on such payment date and any excess shall be credited on future redemption obligations in chronological order, and the principal amount of Bonds to be redeemed by operation of this mandatory sinking fund provision shall be accordingly reduced.

### Selection Of Bonds For Redemption And Notice Of Redemption

If less than all the principal amount of the Bonds of a maturity shall be called for redemption, the interests within the maturity to be redeemed shall be selected as follows

(i) if the Bonds are being held under a Book-Entry-Only System by DTC, or a successor Depository, the amount of the interest of each DTC Participant in the Bonds to be redeemed shall be determined by DTC, or such successor Depository, by lot or such other manner as DTC, or such successor Depository, shall determine; or

(ii) if the Bonds are not being held under a Book-Entry-Only System by DTC, or a successor Depository, the Bonds within the maturity to be redeemed shall be selected by the Registration Agent by lot or such other random manner as the Registration Agent in its discretion shall determine.

Notice of call for redemption, whether optional or mandatory, shall be given by the Registration Agent not less than twenty (20) nor more than sixty (60) days prior to the date fixed for redemption by sending an appropriate notice to the registered owners of the Bonds to be redeemed by first-class mail, postage prepaid, at the addresses shown on the Bond registration records of the Registration Agent as of the date of the notice; but neither failure to mail such notice nor any defect in any such notice so mailed shall affect the sufficiency of the proceedings for the redemption of any of the Bonds for which proper notice was given. The notice may state that it is conditioned upon the deposit of moneys in an amount equal to the amount necessary to effect the redemption with the Registration Agent no later than the redemption date ("Conditional Redemption"). As long as DTC, or a successor Depository, is the registered owner of the Bonds, all redemption notices shall be mailed by the Registration Agent to DTC, or such successor Depository, as the registered owner of the Bonds, as and when above provided, and neither the District nor the Registration Agent shall be responsible for mailing notices of redemption to DTC Participants or Beneficial Owners. Failure of DTC, or any successor Depository, to provide notice to any DTC Participant will not affect the validity of such redemption. From and after any redemption date, all Bonds called for redemption shall cease to bear interest if funds are available at the office of the Registration

Agent for the payment thereof and if notice has been duly provided as set forth in the Resolution. In the case of a Conditional Redemption, the failure of the Board to make funds available in part or in whole on or before the redemption date shall not constitute an event of default, and the Registration Agent shall give immediate notice to the Depository or the affected Bondholders that the redemption did not occur and that the Bonds called for redemption and not so paid remain outstanding.

## ESTIMATED SOURCES AND USES OF FUNDS

The tables on the following pages set forth the estimated sources and uses of funds in connection with the issuance of the Bonds.

### The Electric Bonds

| | |
|---|---|
| Sources: | |
| Principal amount of the Electric Bonds | $ |
| Net Reoffering Premium | $ |
| Total Sources | $ |
| | |
| Uses: | |
| Underwriter's Discount | $ |
| Cost of Issuance | $ |
| Deposit to the Escrow Refunding Fund | $ |
| Total Uses: | $ |

### The Gas Bonds

| | |
|---|---|
| Sources: | |
| Principal amount of the Gas Bonds | $ |
| Net Reoffering Premium | $ |
| Total Sources | $ |
| | |
| Uses: | |
| Underwriter's Discount | $ |
| Cost of Issuance | $ |
| Deposit to the Current Refunding Fund | $ |
| Total Uses: | $ |

### The Water Bonds

| | |
|---|---|
| Sources: | |
| Principal amount of the Water Bonds | $ |
| Net Reoffering Premium | $ |
| Total Sources | $ |
| | |
| Uses: | |
| Underwriter's Discount | $ |
| Cost of Issuance | $ |
| Deposit to the Current Refunding Fund | $ |
| Total Uses: | $ |

### The Wastewater Bonds

| | |
|---|---|
| Sources: | |
| Principal amount of the Wastewater Bonds | $ |
| Net Reoffering Premium | $ |

| | |
|---|---|
| Total Sources | $ |

Uses:

| | |
|---|---|
| Underwriter’s Discount | $ |
| Cost of Issuance | $ |
| Deposit to the Current Refunding Fund | $ |
| Total Uses: | $ |

## PAYMENT OF BONDS

The Bonds will bear interest from their date or from the most recent interest payment date to which interest has been paid or duly provided for, on the dates provided herein, such interest being computed upon the basis of a 360-day year of twelve 30-day months. Interest on each Bond shall be paid by check or draft of the Bond Registrar to the person in whose name such Bond is registered at the close of business on the 15th day of the month next preceding the interest payment date. The principal of and premium, if any, on the Bonds shall be payable in lawful money of the United States of America at the principal corporate trust office of the Bond Registrar.

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# SECURITY FOR THE BONDS

## SECURITY FOR THE ELECTRIC SYSTEM REVENUE REFUNDING BONDS, SERIES HH-2017

### Pledge Under the Bond Resolutions.

The Electric Bonds constitute and, when issued, will be part of an issue of bonds known as "Electric System Revenue Bonds" under the Electric Bond Resolutions. All Electric Bonds are limited obligations of the City payable solely and ratably from the net revenues of the Electric System and are on a parity and equality of lien with the City's outstanding: (i) Electric System Revenue Refunding Bonds, Series W-2005 dated August 10, 2005 to the extent not refunded with the Electric Bonds; (ii) Electric System Revenue Bonds, Series Y-2009, dated February 20, 2009; (iii) Electric System Revenue Bonds, Series Z-2010 (Federally Taxable Build America Bonds), dated December 8, 2010; (iv) Electric System Revenue Refunding Bonds, Series AA-2012, dated April 20, 2012; (v) Electric System Revenue Bonds, Series BB-2012, dated December 18, 2012; (vi) Electric System Revenue Refunding Bonds, Series CC-2013, dated March 15, 2013; (vii) Electric System Revenue Bonds, Series DD-2014, dated September 18, 2014; (viii) Electric System Revenue Refunding Bonds, Series EE-2015, dated May 1, 2015; (ix) Electric System Revenue Bonds, Series FF-2015, dated May 20, 2015; and (x) Electric System Revenue Bonds, Series GG-2016, dated August 5, 2016 (collectively, the "Outstanding Electric System Bonds") issued pursuant to the Electric Bond Resolutions in addition to the Electric Bonds. The Electric Bonds, the Outstanding Electric Bonds and any future parity bonds are sometimes hereinafter referred to as the "Electric System Bonds".

Neither the Electric Bonds nor any of the Outstanding Electric System Bonds are general obligations of the City, and no owner thereof shall have the right to compel the City to exercise its taxing power to pay principal of or premium or interest on the Electric Bonds or any other Outstanding Electric System Bonds of the City.

### Rate Covenant

The Electric Bond Resolutions provide that the Board will fix rates and collect charges for the Electric System and the services, facilities and commodities furnished by the Electric System of the City so as to provide revenues sufficient to pay, as the same shall become due, the principal of and interest on the Electric Bonds and all other Electric System Bonds in addition to paying, as the same shall become due, the necessary expenses of operating and maintaining the Electric System and all other obligations and indebtedness payable out of the Electric Fund of the Electric System, and that such rates and charges shall not be reduced so as to be insufficient to provide revenues for said purposes. Rates and fees for electricity provided by the Electric System are established by the Board.

### Additional Electric Bonds

The City and the Board have covenanted in the Electric Bond Resolutions that no indebtedness will be incurred payable from the revenues of the Electric System having priority over the Electric System Bonds, including the Electric Bonds.

The City, acting by and through KUB, or KUB may issue additional bonds, notes or other obligations pursuant to the Electric Bond Resolutions provided that all payments required to be made to the Electric Debt Service Fund and into any reserve fund which may be required under resolutions authorizing parity indebtedness are current as of the date of issuance of the additional bonds, notes or other obligations, on a parity and equality of lien with the outstanding parity indebtedness under the Electric Bond Resolution with respect to the lien and claim of such additional bonds, notes or other obligations to the net revenues of the Electric System and the money on deposit in the Electric Debt Service Fund (i) for the purpose of refunding any outstanding parity indebtedness, subordinate bonds, notes, loan agreements or other obligations, provided that after the issuance of such additional parity indebtedness, the Aggregate Debt Service (as defined in the Electric Bond Resolutions) on all outstanding parity indebtedness, including the additional parity indebtedness to be issued, in any fiscal year shall not increase by more than ten percent (10%) after the issuance of such additional parity indebtedness; (ii) for the purpose of financing the completion or equipping of improvements to the Electric System for which outstanding parity indebtedness have previously been issued but only to the extent necessary to complete such improvements in the manner contemplated at the time of the issuance of the outstanding parity indebtedness that financed such improvements; and (iii) for the purposes of refunding any outstanding parity indebtedness or any prior lien bonds, subordinated bonds, notes or other obligations or extending, improving or replacing the Electric System or for any other lawful purpose under applicable law, if one of the following conditions shall have been met: (A) the Net Revenues (as defined in the Electric Resolution) for any twelve-month period selected by the Board ending within the twelve months prior to the date of the issuance of the additional parity indebtedness must have been equal to at least 120% of the Maximum Annual Aggregate Debt Service (as defined in the Electric Resolution) on outstanding parity indebtedness plus the Debt Service on the additional parity indebtedness proposed to be issued or (B) the estimated Net Revenues of the Electric System for each of the three fiscal years next succeeding the issuance of the additional parity indebtedness, must be equal at least to 120% of Maximum Annual Aggregate Debt Service, any other outstanding parity indebtedness and all outstanding prior lien bonds plus the Debt Service on the additional parity indebtedness proposed to be issued; provided, however, that if the additional parity indebtedness is to be issued for the acquisition or construction of any extension, improvement or replacement to the Electric System, then the estimate of Net Revenues may be for the three fiscal years ensuing after the time that such improvement, extension or replacement is expected to be placed in service. **See APPENDIX G "Summary of Certain Provisions of the Electric Bond Resolutions – Additional Indebtedness" for additional information, including amendments described therein.**

## SECURITY FOR THE GAS SYSTEM REVENUE REFUNDING BONDS, SERIES W-2017

### Pledge Under the Bond Resolutions.

The Gas Bonds constitute and, when issued, will be part of an issue of bonds known as "Gas System Revenue Bonds" under the Gas System Bond Resolutions. The Gas Bonds are limited obligations of the City payable solely and ratably from the net revenues of the Gas System and are on a parity and equality of lien with the City's outstanding: (i) Gas System Revenue Refunding Bonds, Series L-2005, dated August 10, 2005 to the extent not refunded with the Gas Bonds; (ii) Gas System Revenue Bonds, Series N-2007, dated November 1, 2007; (iii) Gas System Revenue Bonds, Series P-2010 (Federally Taxable Build America Bonds), dated December 8, 2010; (iv) Gas System Revenue Refunding Bonds, Series Q-2012, dated April 20, 2012; (v) Gas System Revenue Bonds, Series R-2012, dated December 18, 2012; (vi) Gas System Revenue Refunding Bonds, Series S-2013, dated March 15, 2013; (vii) Gas System Revenue Bonds, Series T-2013, dated October 1, 2013; (viii) Gas System Revenue Refunding Bonds, Series U-2015, dated May 1, 2015; and (ix) Gas System Revenue Bonds, Series V-2016, dated August 5, 2016 (collectively, the "Outstanding Gas System Bonds"). The Gas Bonds, the Outstanding Gas System Bonds and any future parity bonds are sometimes hereinafter referred to as the "Gas System Bonds".

Neither the Gas Bonds nor any of the Outstanding Gas System Bonds are general obligations of the City, and no owner thereof shall have the right to compel the City to exercise its taxing power to pay principal of or premium or interest on the Gas Bonds or any other Outstanding Gas System Bonds of the City.

### Rate Covenant

The Gas System Bond Resolutions provide that the Board will fix rates and collect charges for the Gas System and the services, facilities and commodities furnished by the Gas System of the City so as to provide revenues sufficient to pay, as the same shall become due, the principal of and interest on the Bonds and all other Gas System Bonds in addition to paying, as the same shall become due, the necessary expenses of operating and maintaining the Gas System and all other obligations and indebtedness payable out of the Gas Fund of the Gas System, and that such rates and charges shall not be reduced so as to be insufficient to provide revenues for said purposes.

### Additional Gas Bonds

The City and the Board have covenanted in the Gas Bond Resolutions that it will incur no indebtedness payable from the revenues of the Gas System having priority over the Gas System Bonds, including the Gas Bonds.

The City, acting by and through KUB, or KUB may issue additional bonds, notes or other obligations pursuant to the Gas Bond Resolutions provided that all payments required to be made to the Gas Debt Service Fund and into any reserve fund which may be required under resolutions authorizing parity indebtedness are current as of the date of issuance of the additional bonds, notes or other obligations, on a parity and equality of lien with the outstanding parity indebtedness under the Gas Bond Resolution with respect to the lien and claim of such additional bonds, notes or other obligations to the net revenues of the Gas System and the money on deposit in the Gas Debt Service Fund (i) for the purpose of refunding any outstanding parity indebtedness, subordinate bonds, notes, loan agreements or other obligations, provided that after the issuance of such additional parity indebtedness, the Aggregate Debt Service (as defined in the Gas Resolution) on all outstanding parity indebtedness, including the additional parity indebtedness to be issued, in any fiscal year shall not increase by more than ten percent (10%) after the issuance of such additional parity indebtedness; (ii) for the purpose of financing the completion or equipping of improvements to the Gas System for which outstanding parity indebtedness have previously been issued but only to the extent necessary to complete such improvements in the manner contemplated at the time of the issuance of the outstanding parity indebtedness that financed such improvements; and (iii) for the purposes of refunding any outstanding parity indebtedness or any prior lien bonds, subordinated bonds, notes or other obligations or extending, improving or replacing the Gas System or for any other lawful purpose under applicable law, if one of the following conditions shall have been met: (A) the Net Revenues (as defined in the Gas Resolution) for any twelve-month period selected by the Board ending within the twelve months prior to the date of the issuance of the additional parity indebtedness must have been equal to at least 120% of the Maximum Annual Aggregate Debt Service (as defined in the Gas Resolution) on outstanding parity indebtedness plus the Debt Service on the additional parity indebtedness proposed to be issued or (B) the estimated Net Revenues of the Gas System for each of the three fiscal years next succeeding the issuance of the additional parity indebtedness, must be equal at least to 120% of Maximum Annual Aggregate Debt Service, any other outstanding parity indebtedness and all outstanding prior lien bonds plus the Debt Service on the additional parity indebtedness proposed to be issued; provided, however, that if the additional parity indebtedness is to be issued for the acquisition or construction of any extension, improvement or replacement to the Gas System, then the estimate of Net Revenues may be for the three fiscal years ensuing after the time that such improvement, extension or replacement is expected to be placed in service. **See APPENDIX H "Summary of Certain Provisions of the Gas Bond Resolutions – Additional Indebtedness" for additional information.**

## SECURITY FOR THE WATER SYSTEM REVENUE REFUNDING BONDS, SERIES FF-2017

### Pledge Under the Water Bond Resolutions

The Water Bonds constitute and, when issued, will be part of an issue known as "Water System Revenue Bonds" and "Water System Revenue Refunding Bonds" under the Water Bond Resolutions. All Water Bonds are limited obligations of the City payable solely and ratably from the net revenues of the Water System of the City and are on a parity and equality of lien with the City's outstanding: (i) Water System Revenue Refunding Bonds, Series S-2005, dated August 10, 2005 to the extent not refunded with the Water Bonds; (ii) Water System Revenue Bonds, Series T-2007, dated November 1, 2007; (iii) Water System Revenue Bonds, Series U-2009, dated November 12, 2009; (iv) Water System Revenue Bonds, Series W-2011, dated December 1, 2011; (v) Water System Revenue Refunding Bonds, Series X-2012, dated April 20, 2012; (vi) Water System Revenue Refunding Bonds, Series Y-2013, dated March 15, 2013; (vii) Water System Revenue Bonds, Series Z-2013, dated October 1, 2013; (viii) Water System Revenue Bonds, Series AA-2014, dated September 18, 2014; (ix) Water System Revenue Refunding Bonds, Series BB-2015, dated May 1, 2015; (xi) Water System Revenue Bonds, Series CC-2015, dated May 20, 2015; (xii) Water System Revenue Bonds, Series DD-2016, dated August 5, 2016; and (xiii) Water System Revenue Refunding Bonds, Series EE-2016, dated August 5, 2016 (collectively, the "Outstanding

Water System Bonds"). The Water Bonds, the Outstanding Water System Bonds and any future parity Water Bonds are sometimes hereinafter referred to as the "Water System Bonds".

Neither the Water Bonds nor any of the Outstanding Water System Bonds are general obligations of the City, and no owner thereof shall have the right to compel the City to exercise its taxing power to pay principal of or premium or interest on the Water Bonds or any Outstanding Water System Bonds of the City.

**Rate Covenant**

The Water Bond Resolutions provides that the Board will fix rates and collect charges for the Water System and the services, facilities and commodities furnished by the Water System of the City so as to provide revenues sufficient to pay, as the same shall become due, the principal of and interest on the Water Bonds and all other Water System Water Bonds in addition to paying, as the same shall become due, the necessary expenses of operating and maintaining the Water System and all other obligations and indebtedness payable out of the Water Fund of the Water System, and that such rates and charges shall not be reduced so as to be insufficient to provide revenues for said purposes.

**Additional Water Bonds**

The City, acting through the Board, has covenanted in the Water Bond Resolutions that it will incur no indebtedness payable from the revenues of the Water System having priority over the Water System Bonds, including the Water Bonds.

The City, acting by and through KUB, or KUB may issue additional Water Bonds, notes or other obligations pursuant to the Water Bond Resolutions, provided that all payments required to be made to the Water Debt Service Fund and into any reserve fund which may be required under resolutions authorizing parity indebtedness are current as of the date of issuance of the additional Water Bonds, notes or other obligations, on a parity and equality of lien with the outstanding parity indebtedness with respect to the lien and claim of such additional Water Bonds, notes or other obligations to the net revenues of the Water System and the money on deposit in the Water Debt Service Fund for the purpose of (i) refunding any outstanding parity indebtedness, subordinate Water Bonds, notes, loan agreements or other obligations, provided that after the issuance of such additional parity indebtedness, the Aggregate Debt Service (as defined in the Water Bond Resolutions) on all outstanding parity indebtedness, including the additional parity indebtedness to be issued, in any fiscal year shall not increase by more than ten percent (10%) after the issuance of such additional parity indebtedness; (ii) for the purpose of financing the completion or equipping of improvements to the Water System for which outstanding parity indebtedness have previously been issued but only to the extent necessary to complete such improvements in the manner contemplated at the time of the issuance of the outstanding parity indebtedness that financed such improvements; and (iii) for the purposes of refunding any outstanding parity indebtedness or any prior lien Water Bonds, subordinated Water Bonds, notes or other obligations or extending, improving or replacing the Water System or for any other lawful purpose under applicable law, if one of the following conditions shall have been met: (A) the Net Revenues (as defined in the Water Bond Resolutions) for any twelve-month period selected by the Board ending within the twelve months prior to the date of the issuance of the additional parity indebtedness must have been equal to at least 120% of the Maximum Annual Aggregate Debt Service (as defined in the Water Bond Resolutions) on outstanding parity indebtedness plus the Debt Service on the additional parity indebtedness proposed to be issued or (B) the estimated Net Revenues of the Water System for each of the three fiscal years next succeeding the issuance of the additional parity indebtedness, must be equal at least to 120% of Maximum Annual Aggregate Debt Service, any other outstanding parity indebtedness and all outstanding prior lien Water Bonds plus the Debt Service on the additional parity indebtedness proposed to be issued; provided, however, that if the additional parity indebtedness is to be issued for the acquisition or construction of any extension, improvement or replacement to the Water System, then the estimate of Net Revenues may be for the three fiscal years ensuing after the time that such improvement, extension or replacement is expected to be placed in service. **See APPENDIX I "Summary of Certain Provisions of the Water Bond Resolution – Additional Indebtedness" for additional information.**

## SECURITY FOR THE WASTEWATER SYSTEM REVENUE BONDS, SERIES 2017A

### Pledge Under the Bond Resolution

The Wastewater Bonds constitute and, when issued, will be part of an issue known as "Wastewater System Revenue Bonds" under the Wastewater System Bond Resolutions. All Wastewater Bonds are limited obligations of the City payable solely and ratably from the net revenues of the Wastewater System of the City and are on a parity and equality of lien with the City's outstanding: (i) Wastewater System Revenue Refunding Bonds, Series 2005B, dated August 10, 2005 to the extent not refunded with the Wastewater Bonds; (ii) Wastewater System Revenue Bonds, Series 2008, dated December 23, 2008; (iii) Wastewater System Revenue Bonds, Series 2010 (Federally Taxable Build America Bonds), dated February 10, 2010; (iv) Wastewater System Revenue Bonds, Series 2010C (Federally Taxable Build America Bonds), dated December 8, 2010; (v) Wastewater System Revenue Refunding Bonds, Series 2012A, dated April 20, 2012; (vi) Wastewater System Revenue Bonds, Series 2012B, dated December 18, 2012 ; (vii) Wastewater System Revenue Refunding Bonds, Series 2013A, dated March 15, 2013; (viii) Wastewater System Revenue Bonds, Series 2014A, dated September 18, 2014; (ix) Wastewater System Revenue Refunding Bonds, Series 2015A, dated May 1, 2015; (x) Wastewater System Revenue Bonds, Series 2015B, dated May 20, 2015; and (xi) Wastewater System Revenue Bonds, Series 2016, dated August 5, 2016 (collectively, the "Outstanding Wastewater System Bonds"). The Wastewater Bonds, the Outstanding Wastewater System Bonds and any future parity bonds are sometimes hereinafter referred to as the "Wastewater System Bonds".

Neither the Wastewater Bonds nor any of the Outstanding Wastewater System Bonds are general obligations of the City, and no owner thereof shall have the right to compel the City to exercise its taxing power to pay principal of or premium or interest on the Wastewater Bonds or any other Outstanding Wastewater System Bonds of the City.

### Rate Covenant

The Wastewater System Bond Resolutions provide that the Board will fix rates and collect charges for the Wastewater System and the services and facilities furnished by the Wastewater System of the City so as to provide revenues sufficient to pay, as the same shall become due, the principal of and interest on the Bonds and all other Wastewater System Bonds in addition to paying, as the same shall become due, the necessary expenses of operating and maintaining the Wastewater System and all other obligations and indebtedness payable out of the Wastewater Fund of the Wastewater System, and that such rates and charges shall not be reduced so as to be insufficient to provide revenues for said purposes.

### Additional Wastewater Bonds

The City and the Board have covenanted in the Wastewater Bond Resolutions that it will incur no indebtedness payable from the revenues of the Wastewater System having priority over the Wastewater System Bonds, including the Wastewater Bonds.

The City, acting by and through KUB, or KUB may issue additional bonds, notes or other obligations pursuant to the Wastewater Bond Resolutions provided that all payments required to be made to the Wastewater Debt Service Fund and into any reserve fund which may be required under resolutions authorizing parity indebtedness are current as of the date of issuance of the additional bonds, notes or other obligations, on a parity and equality of lien with the outstanding parity indebtedness under the Wastewater Bond Resolution, with respect to the lien and claim of such additional bonds, notes or other obligations to the net revenues of the Wastewater System and the money on deposit in the Wastewater Debt Service Fund (i) for the purpose of refunding any outstanding parity indebtedness, subordinate bonds, notes, loan agreements or other obligations, provided that after the issuance of such additional parity indebtedness, the Aggregate Debt Service (as defined in the Wastewater Resolution) on all outstanding parity indebtedness, including the additional parity indebtedness to be issued, in any fiscal year shall not increase by more than ten percent (10%) after the issuance of such additional parity indebtedness; (ii) for the purpose of financing the completion or equipping of improvements to the Wastewater System for which outstanding parity indebtedness have previously been issued but only to the extent necessary to complete such improvements in the manner contemplated at the time of the issuance of the outstanding parity indebtedness that financed such improvements; and (iii) for the purposes of refunding any outstanding parity indebtedness or any prior lien bonds, subordinated bonds, notes or other obligations or extending, improving or replacing the Wastewater System or for any other lawful purpose under applicable law, if one of the following conditions shall have been met: (A) the Net Revenues (as defined in the Wastewater Resolution) for any twelve-month period selected by the Board ending within the twelve months prior to the date of the issuance of the additional parity indebtedness must have been equal to at least 120% of the Maximum Annual Aggregate Debt Service (as defined in the Wastewater Resolution) on outstanding parity indebtedness plus the Debt Service on the additional parity indebtedness proposed to be issued or (B) the estimated Net Revenues of the Wastewater System for each of the three fiscal years next succeeding the issuance of the additional parity indebtedness, must be equal at least to 120% of Maximum Annual Aggregate Debt Service, any other outstanding parity indebtedness and all outstanding prior lien bonds plus the Debt Service on the additional parity indebtedness proposed to be issued; provided, however, that if the additional parity indebtedness is to be issued for the acquisition or construction of any extension, improvement or replacement to the Wastewater System, then the estimate of Net Revenues may be for the three fiscal years ensuing after the time that such improvement, extension or replacement is expected to be placed in service. **See APPENDIX J "Summary of Certain Provisions of the Wastewater Bond Resolutions – Additional Indebtedness" for additional information.**

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# BASIC DOCUMENTATION

## BOOK-ENTRY-ONLY SYSTEM

The Bonds, when issued, will be registered in the name of Cede & Co., DTC's partnership nominee. When the Bonds are issued, ownership interests will be available to purchasers only through a book-entry-only system maintained by DTC (the **"Book-Entry-Only System"**). One or more fully-registered bond certificates will be issued for each maturity, in the entire aggregate principal amount of the Bonds and will be deposited with DTC.

*DTC and its Participants*. DTC is a limited-purpose trust company organized under the New York Bank Law, a **"banking organization"** within the meaning of the New York Banking Law, a member of the Federal Reserve System, a **"clearing corporation"** within the meaning of the New York Uniform Commercial Code, and a **"clearing agency"** registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934. DTC holds and provides asset servicing for securities that its participants (the **"Direct Participants"**) deposit with DTC. DTC also facilitates the settlement among Direct Participants of securities transactions, such as transfers and pledges, in deposited securities through electronic computerized book-entry-only changes in DTC Participants' accounts, thereby eliminating the need for physical movement of securities certificates. Direct Participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation (**"DTCC"**). DTCC, in turn, is owned by a number of its Direct Participants and Members of the National Securities Clearing Corporation, Government Securities Clearing Corporation, MBS Clearing Corporation, and Emerging Markets Clearing Corporation, (the **"NSCC"**, **"GSCC"**, **"MBSCC"**, and **"EMCC"**, also subsidiaries of DTCC), as well as by the New York Stock Exchange, Inc. (the **"NYSE"**), the American Stock Exchange LLC and the National Association of Securities Dealers, Inc. Access to the DTC system is also available to others, such as both U.S. and non-U.S. securities brokers and dealers, banks and trust companies that clear through or maintain a custodial relationship with a Direct DTC Participant, either directly or indirectly (the **"Indirect Participants"** and, together with the Direct Participants, the **"Participants"**). DTC has S&P's rating of **"AA+."** The rules applicable to DTC and its Participants are on file with the Securities and Exchange Commission. More information about DTC can be found at www.dtcc.com.

*Purchase of Ownership Interests*. Purchases of the Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the Bonds on DTC's records. The ownership interest of each actual purchaser of each Bond (a **"Beneficial Owner"**) is in turn to be recorded on the Direct and Indirect Participants' records. Beneficial owners will not receive written confirmation from DTC of their purchase, but Beneficial Owners are expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through whom such Beneficial Owners entered into the transaction. Transfers of ownership interests in the Bonds are to be accomplished by entries made on the books of Direct and Indirect Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interests in the Bonds, except as specifically provided in the Bonds in the event that use of the book-entry-only system is discontinued.

*Payments of Principal and Interest*. Principal and interest payments on the Bonds will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit Direct Participants' accounts, upon DTC's receipt of funds and corresponding detail information from the Registration Agent on the payable date in accordance with their respective holdings shown on DTC's records, unless DTC has reason to believe it will not receive payment on such date. Payments by Direct and Indirect Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with municipal securities held for the accounts of customers in bearer form or registered in **"street name"**, and will be the responsibility of such Participant and not of DTC, the City or the Registration Agent subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of redemption proceeds, principal, tender price and interest payments to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the Registration Agent, disbursement of such payments to Direct Participants shall be the responsibility of DTC, and disbursement of such payments to the Beneficial Owners shall be the responsibility of Direct and Indirect Participants.

*Notices*. Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time. Beneficial Owners of Bonds may wish to take certain steps to augment transmission to them of notices of significant events with respect to the Bonds, such as redemptions, tenders, defaults, and proposed amendments to the bond documents. Beneficial Owners of the Bonds may wish to ascertain that the nominee holding the Bonds for their benefit has agreed to obtain and transmit notices to Beneficial Owners, or in the alternative, Beneficial Owners may wish to provide their names and addresses to the Registration Agent and request that copies of the notices be provided directly to them.

Redemption notices shall be sent to DTC. If less than all of the Bonds within a maturity are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in such maturity to be redeemed.

Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to the Bonds unless authorized by a Direct Participant in accordance with DTC's procedures. Under its usual procedures, DTC mails an Omnibus Proxy to the City as soon as practicable after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts the Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

NONE OF THE CITY, KUB, THE FINANCIAL ADVISOR, THE UNDERWRITER OR THE REGISTRATION AGENT WILL HAVE ANY RESPONSIBILITY OR OBLIGATION TO SUCH PARTICIPANTS OR THE PERSONS FOR WHOM THEY ACT AS NOMINEES WITH RESPECT TO THE PAYMENT TO, OR THE PROVIDING OF NOTICE FOR, SUCH PARTICIPANTS OR THE PERSONS FOR WHOM THEY ACT AS NOMINEES.

*Transfers of Bonds*. To facilitate subsequent transfers, all Bonds deposited by Direct Participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co. or such other name as may be requested by an authorized representative of DTC. The deposit of the Bonds with DTC and their registration in the name of Cede & Co. or such other nominee do not effect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the Bonds; DTC's records reflect only the identity of the Direct Participants to whose accounts such Bonds are credited, which may or may not be the Beneficial Owners. The Direct and Indirect Participants will remain responsible for keeping account of their holdings on behalf of their customers.

None of the City, KUB, the Financial Advisor, the Registration Agent or the Underwriter will have any responsibility or obligation, legal or otherwise, to any party other than to the registered owners of any Bond on the registration books of the Registration Agent.

## NO ASSURANCE REGARDING DTC PRACTICES

The foregoing information in this section concerning DTC and DTC's book-entry-only system has been obtained from sources that the City acting by and through KUB, believes to be reliable, but the City, KUB, the Registration Agent and the Underwriter do not take any responsibility for the accuracy thereof.

So long as Cede & Co. is the registered owner of the Bonds as nominee of DTC, references herein to the holders or registered owners of the Bonds will mean Cede & Co. and will not mean the Beneficial Owners of the Bonds.

None of the City, KUB, the Registration Agent, the Financial Advisor or the Underwriter will have any responsibility or obligation to the Participants, DTC or the persons for whom they act with respect to (i) the accuracy of any records maintained by DTC or by any Direct or Indirect Participant of DTC, (ii) payments or the providing of notice to Direct Participants, the Indirect Participants or the Beneficial Owners or (iii) any other action taken by DTC or its partnership nominee as owner of the Bonds.

For more information on the duties of the Registration Agent, please refer to the Resolution.

## DEBT LIMITATIONS

Pursuant to Title 9, Chapter 21, Tennessee Code Annotated, as amended, there is no limit on the amount of bonds that may be issued when the City uses the statutory authority granted therein to issue bonds.

## DISPOSITION OF BOND PROCEEDS

### Electric Bonds

The proceeds of the sale of the Electric Bonds shall be applied as follows:

(a) an amount equal to interest accrued on the Electric Bonds from the dated date until the date of delivery of the Electric Bonds, if any, shall be deposited to the Electric Debt Service Fund to be used to pay interest on the Electric Bonds on the first interest payment date following delivery of the Electric Bonds; and

(b) the remainder, which together with investment earnings thereon and legally available funds of KUB, if any, will be sufficient to pay principal of, premium, if any, and interest on the Refunded Electric Bonds shall be transferred to the Refunding Escrow Agent under the Refunding Escrow Agreement to be deposited to the Escrow Fund established thereunder to be held and applied as provided therein or, if a Refunding Escrow Agreement is not utilized, held by KUB or the paying agent for the Refunded Electric Bonds and applied to refund the Refunded Electric Bonds. If there are any remaining proceeds of the Electric Bonds after refunding the Refunded Electric Bonds, such remaining proceeds shall be used to pay principal and/or interest on the Electric Bonds.

### Gas Bonds

The proceeds of the sale of the Gas Bonds shall be applied as follows:

(a) an amount equal to interest accrued on the Gas Bonds, if any, from the dated date until the date of delivery of the Gas Bonds, if any, shall be deposited to the Gas Debt Service Fund to be used to pay interest on the Bonds on the first interest payment date following delivery of the Gas Bonds; and

(b) the remainder, which together with investment earnings thereon and legally available funds of KUB, if any, will be sufficient to pay principal of, premium, if any, and interest on the Refunded Gas Bonds shall be transferred to the Refunding Escrow Agent under the Refunding Escrow Agreement to be deposited to the Escrow Fund established thereunder to be held and applied as provided therein or, if a Refunding Escrow Agreement is not utilized, held by KUB or the paying agent for the Refunded Gas Bonds and applied to refund the Refunded Gas Bonds. If there are any remaining proceeds of the Gas Bonds after refunding the Refunded Gas Bonds, such remaining proceeds shall be used to pay principal and/or interest on the Gas Bonds.

### Water Bonds

The proceeds of the sale of the Water Bonds shall be applied as follows:

(a) an amount equal to interest accrued on the Water Bonds, if any, from the dated date until the date of delivery of the Water Bonds, if any, shall be deposited to the Water Debt Service Fund to be used to pay interest on the Water Bonds on the first interest payment date following delivery of the Water Bonds; and

(b) the remainder, which together with investment earnings thereon and legally available funds of KUB, if any, will be sufficient to pay principal of, premium, if any, and interest on the Refunded Water Bonds shall be transferred to the Refunding Escrow Agent under the Refunding Escrow Agreement to be deposited to the Escrow Fund established thereunder to be held and applied as provided therein or, if a Refunding Escrow Agreement is not utilized, held by KUB or the paying agent for the Refunded Water Bonds and applied to refund the Refunded Water Bonds. If there are any remaining proceeds of the Water Bonds after refunding the Refunded Water Bonds, such remaining proceeds shall be used to pay principal and/or interest on the Water Bonds.

### Wastewater Bonds

The proceeds of the sale of the Wastewater Bonds shall be applied as follows:

(a) an amount equal to interest accrued on the Wastewater Bonds from the dated date until the date of delivery of the Wastewater Bonds, if any, shall be deposited to the Wastewater Debt Service Fund to be used to pay interest on the Bonds on the first interest payment date following delivery of the Wastewater Bonds; and

(b) the remainder, which together with investment earnings thereon and legally available funds of KUB, if any, will be sufficient to pay principal of, premium, if any, and interest on the Refunded Wastewater Bonds shall be transferred to the Refunding Escrow Agent under the Refunding Escrow Agreement to be deposited to the Escrow Fund established thereunder to be held and applied as provided therein or, if a Refunding Escrow Agreement is not utilized, held by KUB or the paying agent for the Refunded Wastewater Bonds and applied to refund the Refunded Wastewater Bonds. If there are any remaining proceeds of the Wastewater Bonds after refunding the Refunded Wastewater Bonds, such remaining proceeds shall be used to pay principal and/or interest on the Wastewater Bonds.

## DISCHARGE AND SATISFACTION OF BONDS

The respective series of Bonds may be discharged and deemed paid as described in Appendix G, Appendix H, Appendix I, and Appendix J, which are "Summaries of Resolutions".

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# LEGAL MATTERS

## LITIGATION

There are no suits pending or, to KUB's knowledge, threatened challenging the legality or validity of the Bonds or the right of KUB to sell or issue the Bonds, or that will have an adverse impact on KUB's ability to pay debt service on the Bonds.

## TAX MATTERS

### Federal

*General.* Bass, Berry & Sims PLC, Knoxville, Tennessee, is Bond Counsel for the Bonds. Their opinion under existing law, relying on certain statements by KUB and assuming compliance by KUB with certain covenants, is that interest on the Bonds:

- is excluded from a bondholder's federal gross income under the Internal Revenue Code of 1986, as amended (the "Code"),
- is not a preference item for a bondholder under the federal alternative minimum tax, and
- is included in the adjusted current earnings of a corporation under the federal corporate alternative minimum tax.

The Code imposes requirements on the Bonds that KUB must continue to meet after the Bonds are issued. These requirements generally involve the way that Bond proceeds must be invested and ultimately used. If KUB does not meet these requirements, it is possible that a bondholder may have to include interest on the Bonds in its federal gross income on a retroactive basis to the date of issue. KUB has covenanted to do everything necessary to meet these requirements of the Code.

A bondholder who is a particular kind of taxpayer may also have additional tax consequences from owning the Bonds. This is possible if a bondholder is:

- an S corporation,
- a United States branch of a foreign corporation,
- a financial institution,
- a property and casualty or a life insurance company,
- an individual receiving Social Security or railroad retirement benefits,
- an individual claiming the earned income credit or
- a borrower of money to purchase or carry the Bonds.

If a bondholder is in any of these categories, it should consult its tax advisor.

Bond Counsel is not responsible for updating its opinion in the future. It is possible that future events or changes in applicable law could change the tax treatment of the interest on the Bonds or affect the market price of the Bonds. See also the section "CHANGES IN FEDERAL AND STATE LAWS" below.

Bond Counsel expresses no opinion on the effect of any action taken or not taken in reliance upon an opinion of other counsel on the federal income tax treatment of interest on the Bonds, or under State, local or foreign tax law.

*Bond Premium.* If a bondholder purchases a Bond for a price that is more than the principal amount, generally the excess is "bond premium" on that Bond. The tax accounting treatment of bond premium is complex. It is amortized over time and as it is amortized a bondholder's tax basis in that Bond will be reduced. The holder of a Bond that is callable before its stated maturity date may be required to amortize the premium over a shorter period, resulting in a lower yield on such Bonds. A bondholder in certain circumstances may realize a taxable gain upon the sale of a Bond with bond premium, even though the Bond is sold for an amount less than or equal to the owner's original cost. If a bondholder owns any Bonds with bond premium, it should consult its tax advisor regarding the tax accounting treatment of bond premium.

*Original Issue Discount.* A Bond will have "original issue discount" if the price paid by the original purchaser of such Bond is less than the principal amount of such Bond. Bond Counsel's opinion is that any original issue discount on these Bonds as it accrues is excluded from a bondholder's federal gross income under the Internal Revenue Code. The tax accounting treatment of original issue discount is complex. It accrues on an actuarial basis and as it accrues a bondholder's tax basis in these Bonds will be increased. If a bondholder owns one of these Bonds, it should consult its tax advisor regarding the tax treatment of original issue discount.

*Information Reporting and Backup Withholding.* Information reporting requirements apply to interest on tax-exempt obligations, including the Bonds. In general, such requirements are satisfied if the interest recipient completes, and provides the payor with a Form W-9, "Request for Taxpayer Identification Number and Certification," or if the recipient is one of a limited class of exempt recipients. A recipient not otherwise exempt from information reporting who fails to satisfy the information reporting requirements will be subject to "backup withholding," which means that the payor is required to deduct and withhold a tax from the interest payment, calculated in the manner set forth in the Code. For the foregoing purpose, a "payor" generally refers to the person or entity from whom a recipient receives its payments of interest or who collects such payments on behalf of the recipient.

If an owner purchasing a Bond through a brokerage account has executed a Form W-9 in connection with the establishment of such account, as generally can be expected, no backup withholding should occur. In any event, backup withholding does not affect the excludability of the interest on the Bonds from gross income for Federal income tax purposes. Any amounts withheld pursuant to backup withholding would be allowed as a refund or a credit against the owner's Federal income tax once the required information is furnished to the Internal Revenue Service.

### State Taxes

Under existing law, the Bonds and the income therefrom are exempt from all present state, county and municipal taxes in Tennessee except (a) Tennessee excise taxes on interest on the Bonds during the period the Bonds are held or beneficially owned by any organization or entity, or other than a sole proprietorship or general partnership doing business in the State of Tennessee, and (b) Tennessee franchise taxes by reason of the inclusion of the book value of the Bonds in the Tennessee franchise tax base of any organization or entity, other than a sole proprietorship or general partnership, doing business in the State of Tennessee.

## CHANGES IN FEDERAL AND STATE TAX LAW

From time to time, there are Presidential proposals, proposals of various federal committees, and legislative proposals in the Congress and in the states that, if enacted, could alter or amend the federal and state tax matters referred to herein or adversely affect the marketability or market value of the Bonds or otherwise prevent holders of the Bonds from realizing the full benefit of the tax exemption of interest on the Bonds. Further, such proposals may impact the marketability or market value of the Bonds simply by being proposed. It cannot be predicted whether or in what form any such proposal might be enacted or whether if enacted it would apply to bonds issued prior to enactment. In addition, regulatory actions are from time to time announced or proposed and litigation is threatened or commenced which, if implemented or concluded in a particular manner, could adversely affect the market value, marketability or tax status of the Bonds. It cannot be predicted whether any such regulatory action will be implemented, how any particular litigation or judicial action will be resolved, or whether the Bonds would be impacted thereby. Purchasers of the Bonds should consult their tax advisors regarding any pending or proposed legislation, regulatory initiatives or litigation. The opinions expressed by Bond Counsel are based upon existing legislation and regulations as interpreted by relevant judicial and regulatory authorities as of the date of issuance and delivery of the Bonds, and Bond Counsel has expressed no opinion as of any date subsequent thereto or with respect to any proposed or pending legislation, regulatory initiatives or litigation.

Prospective purchasers of the Bonds should consult their own tax advisors regarding the foregoing matters.

## CLOSING CERTIFICATES

Upon delivery of the Bonds, the Board and / or KUB will execute in a form satisfactory to Bond Counsel, certain closing certificates (which may be combined into one or more certificates) including the following: (i) A certificate as to the OFFICIAL STATEMENT, in final form, signed by the President & Chief Executive Officer and the Chief Financial Officer of KUB acting in their official capacity to the effect that to the best of their knowledge and belief, and after reasonable investigation, (a) neither the OFFICIAL STATEMENT, in final form, nor any amendment or supplement thereto, contains any untrue statements of material fact or omits to state any material fact necessary to make statements therein, in light of the circumstances in which they are made, misleading, (b) since the date of the OFFICIAL STATEMENT, in final form, no event has occurred which should have been set forth in such a memo or supplement, (c) there has been no material adverse change in the operation or the affairs of KUB since the date of the OFFICIAL STATEMENT, in final form, and having attached thereto a copy of the OFFICIAL STATEMENT, in final form, and (d) there is no litigation of any nature pending or threatened seeking to restrain the issuance, sale, execution and delivery of the Bonds, or contesting the validity of the Bonds or any proceeding taken pursuant to which the Bonds were authorized; (ii) a non-arbitrage certificate which supports the conclusions that based upon facts, estimates and circumstances in effect, upon delivery of the Bonds, the proceeds of the Bonds will not be used in a manner which would cause the Bonds to be arbitrage Bonds; (iii) certificates as to the delivery and payment, signed by the President and CEO and the CFO acting in their official capacity, evidencing delivery of and payment for the Bonds; and (iv) a signature identification and incumbency certificate, signed by the President and Chief Executive Officer and the CFO of KUB acting in their official capacities certifying as to the due execution of the Bonds.

## APPROVAL OF LEGAL PROCEEDINGS

Certain legal matters relating to the authorization and the validity of the Bonds are subject to the approval of Bass, Berry & Sims PLC, Knoxville, Tennessee, Bond Counsel. Bond counsel has not prepared the PRELIMINARY OFFICIAL STATEMENT or the OFFICIAL STATEMENT, in final form, or verified their accuracy, completeness or fairness. Accordingly, bond counsel expresses no opinion of any kind concerning the PRELIMINARY OFFICIAL STATEMENT or OFFICIAL STATEMENT, in final form, except for the information under the caption “LEGAL MATTERS- Tax Matters”. The opinion of Bond Counsel will be limited to matters relating to authorization and validity of the Bonds and to the tax-exemption of interest on the Bonds under present federal income tax laws, both as described above. The legal opinion will be delivered with the Bonds and is included in APPENDIX A, hereto.

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# MISCELLANEOUS

## RATINGS

S&P Global Ratings ("S&P") and Moody's Investor Services, Inc. ("Moody's") have given the Electric Bonds the ratings of "AA+" and "Aa2", respectively. S&P and Moody's have given the Gas Bonds the ratings of "AA" and "Aa2", respectively. S&P and Moody's have given the Water Bonds the ratings of "AAA" and "Aa1", respectively. S&P and Moody's have given the Wastewater Bonds the ratings of "AA+" and "Aa2", respectively.

KUB furnished Moody's and S&P with certain information and materials concerning the Bonds, the City and KUB. Generally, Moody's and S&P base their ratings on such information and materials and also on such investigations, studies and assumptions that they may undertake independently. Such ratings reflect only the views of such organizations and explanations of the significance of such ratings should be obtained from such agencies.

There is no assurance that such ratings will continue for any given period of time or that the ratings may not be suspended, lowered or withdrawn entirely by Moody's and S&P, if circumstances so warrant. Due to the ongoing uncertainty regarding the economy of the United States of America, including, without limitation, matters such as the future political uncertainty regarding the United States debt limit, obligations issued by state and local governments, such as the Bonds, could be subject to a rating downgrade. Additionally, if a significant default or other financial crisis should occur in the affairs of the United States or of any of its agencies or political subdivisions, then such event could also adversely affect the market for and ratings, liquidity, and market value of outstanding debt obligations, including the Bonds. Any such downward change in or withdrawal of the ratings may have an adverse effect on the secondary market price of the Bonds.

Any explanation of the significance of the ratings may be obtained only from Moody's and S&P.

## COMPETITIVE PUBLIC SALE

The Bonds will be offered for sale at competitive public bidding on the sale date indicated in the OFFICIAL NOTICE OF SALE. Details concerning the public sale were provided to potential bidders and others in the PRELIMINARY OFFICIAL STATEMENT dated March 1, 2017.

The successful bidder for the Electric Bonds was an account led by _______, _______, _____ (the "Electric Underwriters") who contracted with the City, acting by and through KUB, subject to the conditions set forth in the Official Notice of Sale and Bid Form, to purchase the Electric Bonds at a purchase price of $________ (consisting of the par amount of the Electric Bonds, less an underwriter's discount of $_____) or _______% of par.

The successful bidder for the Gas Bonds was an account led by _______, _______, _______ (the "Gas Underwriters") who contracted with the City, acting by and through KUB, subject to the conditions set forth in the Official Notice of Sale and Bid Form, to purchase the Gas Bonds at a purchase price of $_____ (consisting of the par amount of the Gas Bonds, plus a reoffering premium of $_______ and less an underwriter's discount of $_______) or _____% of par.

The successful bidder for the Water Bonds was an account led by _______, _______, _______ (the "Water Underwriters") who contracted with the City, acting by and through KUB, subject to the conditions set forth in the Official Notice of Sale and Bid Form, to purchase the Water Bonds at a purchase price of $_____ (consisting of the par amount of the Water Bonds, plus a reoffering premium of $_______ and less an underwriter's discount of $_______) or _____% of par.

The successful bidder for the Wastewater Bonds was an account led by _______, _______, _______ (the "Wastewater Underwriters") who contracted with the City, acting by and through KUB, subject to the conditions set forth in the Official Notice of Sale and Bid Form, to purchase the Wastewater Bonds at a purchase price of

$_____ (consisting of the par amount of the Wastewater Bonds, plus a reoffering premium of $_______ and less an underwriter's discount of $_______) or _____% of par.

After the Bonds have been awarded, KUB will prepare an OFFICIAL STATEMENT in final form to be dated as of the sale date. The OFFICIAL STATEMENT in final form will include, among other matters, the identity of the winning bidders, the expected selling compensation to such underwriters and other information on the interest rates and offering prices or yields of the Bonds, all as supplied by the successful bidders. For additional information, see the section entitled LEGAL MATTERS - Closing Certificates contained herein.

## FINANCIAL ADVISOR; RELATED PARTIES; OTHER

*Financial Advisor.* Cumberland Securities Company, Inc., Knoxville, Tennessee, has served as financial advisor (the "Financial Advisor") to KUB for purposes of assisting with the development and implementation of a bond structure in connection with the issuance of the Bonds. The Financial Advisor has not been engaged by KUB to compile, create, or interpret any information in the PRELIMINARY OFFICIAL STATEMENT and OFFICIAL STATEMENT relating to KUB, including without limitation any of KUB's financial and operating data, whether historical or projected. Any information contained in the PRELIMINARY OFFICIAL STATEMENT and OFFICIAL STATEMENT concerning KUB, any of its affiliates or contractors and any outside parties has not been independently verified by the Financial Advisor, and inclusion of such information is not, and should not be construed as, a representation by the Financial Advisor as to its accuracy or completeness or otherwise. The Financial Advisor is not a public accounting firm and has not been engaged by KUB to review or audit any information in the PRELIMINARY OFFICIAL STATEMENT and OFFICIAL STATEMENT in accordance with accounting standards.

*Regions Bank.* Regions Bank (the "Bank") is a wholly-owned subsidiary of Regions Financial Corporation. The Bank provides, among other services, commercial banking, investments and corporate trust services to private parties and to State and local jurisdictions, including serving as registration, paying agent, filing agent or escrow agent related to debt offerings. The Bank will receive compensation for its role in serving as Registration and Paying Agent for the Bonds. In instances where the Bank serves KUB in other normal commercial banking capacities, it will be compensated separately for such services.

*Official Statements.* Certain information relative to the location, economy and finances of the Issuer is found in the PRELIMINARY OFFICIAL STATEMENT, in final form and the OFFICIAL STATEMENT, in final form. Except where otherwise indicated, all information contained in this Official Statement has been provided by KUB. The information set forth herein has been obtained by KUB from sources which are believed to be reliable but is not guaranteed as to accuracy or completeness by, and is not to be construed as a representation of, the Financial Advisor or the Underwriter. The information contained herein is subject to change without notice, and neither the delivery of this Official Statement nor any sale made hereunder shall under any circumstances create an implication that there has been no change in the affairs of KUB, or the other matters described herein since the date hereof or the earlier dates set forth herein as of which certain information contained herein is given.

Cumberland Securities Company, Inc. distributed the PRELIMINARY OFFICIAL STATEMENT, in final form, and the OFFICIAL STATEMENT, in final form on behalf of KUB and will be compensated and/or reimbursed for such distribution and other such services.

*Bond Counsel.* From time to time, Bass, Berry & Sims PLC has represented the Bank on legal matters unrelated to KUB and may do so again in the future.

*Other.* Among other services, Cumberland Securities Company, Inc. and the Bank may also assist local jurisdictions in the investment of idle funds and may serve in various other capacities, including Cumberland Securities Company's role as serving as KUB's Dissemination Agent. If KUB chooses to use one or more of these other services provided by Cumberland Securities Company, Inc. and/or the Bank, then Cumberland

Securities Company, Inc. and/or the Bank may be entitled to separate compensation for the performance of such services.

## INDEPENDENT ACCOUNTANTS

The financial statements of the Electric Division, the Natural Gas Division, the Water Division and the Wastewater Division of KUB, as of June 30, 2016 for the year then ended, included in this Official Statement, have been audited by Coulter & Justus, P.C., independent accountants, as stated in their report appearing herein.

## FUTURE BONDS

KUB does expect to occasionally sell, from time to time, additional Electric System Bonds, Gas System Bonds, Water System Bonds and Wastewater System Bonds to finance normal and customary extensions and improvements to the Systems, and to refinance certain outstanding bonds at lower interest rates.

## CONTINUING DISCLOSURE

KUB will at the time the Bonds are delivered execute a Continuing Disclosure Certificate as to each System under which it will covenant for the benefit of holders and Beneficial Owners of the Bonds to provide certain financial information and operating data relating to KUB by not later than twelve months after the end of each fiscal year commencing with the fiscal year ending June 30, 2017 (the "Annual Report"), and to provide notice of the occurrence of certain significant events not later than ten business days after the occurrence of the events and notice of failure to provide any required financial information of KUB. The Annual Report (and audited financial statements if filed separately) and notices described above will be filed by KUB with the Municipal Securities Rulemaking Board ("MSRB") at www.emma.msrb.org and with any State Information Depository which may be established in Tennessee (the "SID"). The specific nature of the information to be contained in the Annual Report or the notices of events is summarized below. These covenants have been made in order to assist the Underwriters in complying with Securities Exchange Act Rule 15c2-12(b), as it may be amended from time to time (the "Rule 15c2-12").

*Five-Year History of Filing.* While it is believed that all appropriate filings were made with respect to the ratings of KUB's outstanding bond issues, some of which were insured by the various municipal bond insurance companies, no absolute assurance can be made that all such rating changes of the bonds or various insurance companies which insured some transaction were made or made in a timely manner as required by Rule 15c2-12. With the exception of the foregoing, for the past five years, KUB has complied in all material respects with its existing continuing disclosure agreements in accordance with Rule 15c2-12.

*Content of Annual Reports.* KUB's Annual Report shall contain or incorporate by reference the audited financial statements of each System for the prior fiscal year, prepared in accordance with accounting principles generally accepted in the United States of America, and audited in accordance with auditing standards generally accepted in the United States of America; provided, however, if KUB's audited financial statements are not available by the time the Annual Report is required to be filed, the Annual Report shall contain unaudited financial statements in a format similar to the financial statements contained herein, and the audited financial statements shall be filed when available. The Annual Report shall also include in a similar format the following information included in APPENDIX B entitled "SUPPLEMENTAL INFORMATION STATEMENT."

Electric Division.

1. Electric Rates of the Electric Division as shown on page B-14 through B-89;

2. Statement of revenues, expenses and changes in net position - Knoxville Utilities Board Electric Division for the fiscal year as shown on page B-92;

3. Operating and financial history for such year as shown on page B-93;

4. The ten largest electric customers of the Electric Division as shown on page B-94;

5. Summary of outstanding bonded indebtedness as shown on page B-95;

6. Summary of bonded debt service requirements as shown on page B-96; and

7. Historical Debt Service Coverages as shown on page B-97.

Gas System.

1. Gas Rates of the Natural Gas Division as shown on page C-13 through C-43;

2. Operating statistics and customer numbers for such year as shown on page C-45;

3. Statement of revenues, expenses and changes in net position - Knoxville Utilities Board Natural Gas Division for the fiscal year as shown on page C-46;

4. The ten largest Gas customers of the Natural Gas Division as shown on page C-48;

5. Summary of outstanding bonded indebtedness as shown on page C-49;

6. Summary of bonded debt service requirements as shown on page C-50; and

7. Historical Debt Service Coverages as shown on page C-51.

Water System.

1. Water Rates of the Water Division as shown on page D-14 through D-19;

2. Operating statistics and customer numbers for such year as shown on page D-21;

3. Statement of revenues, expenses and changes in net position - Knoxville Utilities Board Water Division for the fiscal year as shown on page D-22;

4. The ten largest Water customers of the Water Division as shown on page D-24;

5. Summary of outstanding bonded indebtedness as shown on page D-25;

6. Summary of bonded debt service requirements as shown on page D-26; and

7. Historical Debt Service Coverages as shown on page D-27.

Wastewater System.

1. Wastewater Rates of the Wastewater Division as shown on page E-13 through E-21;

2. Operating statistics and customer numbers for such year as shown on page E-23;

3. Statement of revenues, expenses and changes in net position - Knoxville Utilities Board Wastewater Division for the fiscal year as shown on page E-24;

4. The ten largest Wastewater customers of the Wastewater Division as shown on page E-25;
5. Summary of outstanding bonded indebtedness as shown on page E-26;
6. Summary of bonded debt service requirements as shown on page E-27; and
7. Historical Debt Service Coverages as shown on page E-28.

Any or all of the items listed above may be incorporated by reference from other documents, including OFFICIAL STATEMENTS in final form for debt issues of KUB or the City or related public entities, which have been submitted to the MSRB's EMMA site. If the document incorporated by reference is a final OFFICIAL STATEMENT, in final form, it will be available from the Municipal Securities Rulemaking Board. KUB or the City shall clearly identify each such other document so incorporated by reference.

*Reporting of Significant Events.* KUB will file notice regarding material events with the MSRB and the SID, if any, as follows:

1. Upon the occurrence of a Listed Event (as defined in (3) below), KUB shall in a timely manner, but in no event more than ten (10) business days after the occurrence of such event, file a notice of such occurrence with the MSRB and SID, if any.

2. For Listed Events where notice is only required upon a determination that such event would be material under applicable Federal securities laws, KUB shall determine the materiality of such event as soon as possible after learning of its occurrence.

3. The following are the Listed Events:

    a. Principal and interest payment delinquencies;

    b. Non-payment related defaults, if material;

    c. Unscheduled draws on debt service reserves reflecting financial difficulties;

    d. Unscheduled draws on credit enhancements reflecting financial difficulties;

    e. Substitution of credit or liquidity providers, or their failure to perform;

    f. Adverse tax opinions, the issuance by the Internal Revenue Service of proposed or final determinations of taxability, Notices of Proposed Issue (IRS Form 5701-TEB) or other material notices or determinations with respect to the tax status of the Bonds or other material events affecting the tax status of the Bonds;

    g. Modifications to rights of Bondholders, if material;

    h. Bond calls, if material, and tender offers;

    i. Defeasances;

    j. Release, substitution, or sale of property securing repayment of the securities, if material;

    k. Rating changes;

    l. Bankruptcy, insolvency, receivership or similar event of the obligated person;

m. The consummation of a merger, consolidation or acquisition involving an obligated person or the sale of all or substantially all of the assets of the obligated person, other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms, if material; and

n. Appointment of a successor or additional trustee or the change of name of a trustee, if material.

*Termination of Reporting Obligation.* KUB's obligations under the Disclosure Certificate shall terminate upon the legal defeasance, prior redemption or payment in full of all of the Bonds.

*Amendment; Waiver.* Notwithstanding any other provision of a Disclosure Certificate, KUB may amend any Disclosure Certificate, and any provision of a Disclosure Certificate may be waived, provided that the following conditions are satisfied:

(a) If the amendment or waiver relates to the provisions concerning the Annual Report and reporting of material significant events it may only be made in connection with a change in circumstances that arises from a change in legal requirements, change in law, or change in the identity, nature or status of an obligated person with respect to the Bonds, or the type of business conducted;

(b) The undertaking, as amended or taking into account such waiver, would, in the opinion of nationally recognized bond counsel, have complied with the requirements of the Rule at the time of the original issuance of the Bonds, after taking into account any amendments or interpretations of the Rule, as well as any change in circumstances; and

(c) The amendment or waiver either (i) is approved by the holders of the applicable Bonds in the same manner as provided in the applicable Resolution for amendments to that Resolution with the consent of holders, or (ii) does not, in the opinion of nationally recognized bond counsel, materially impair the interests of the holders or Beneficial Owners of the Bonds.

In the event of any amendment or waiver of a provision of a Disclosure Certificate, KUB shall describe such amendment in the next Annual Report, and shall include, as applicable, a narrative explanation of the reason for the amendment or waiver and its impact on the type (or, in the case of a change of accounting principles, on the presentation) of financial information or operating data being presented by KUB. In addition, if the amendment relates to the accounting principles to be followed in preparing financial statements, (i) notice of such change shall be given, and (ii) the Annual Report for the year in which the change is made should present a comparison (in narrative form and also, if feasible, in quantitative form) between the financial statements as prepared on the basis of the new accounting principles and those prepared on the basis of the former accounting principles.

*Default.* In the event of a failure of KUB to comply with any provision of a Disclosure Certificate, any holder or any beneficial owner may take such actions as may be necessary and appropriate, including seeking mandate or specific performance by court order, to cause KUB to comply with its obligations under the Disclosure Certificate. A default under a Disclosure Certificate shall not be deemed an event of default, if any, under any Resolution and the sole remedy under each Disclosure Certificate in the event of any failure of KUB to comply with the Disclosure Certificate shall be an action to compel performance.

## ADDITIONAL INFORMATION

Use of the words "shall," "must," or "will" in the PRELIMINARY OFFICIAL STATEMENT and OFFICIAL STATEMENT in summaries of documents or laws to describe future events or continuing obligations is not intended as a representation that such event will occur or obligation will be fulfilled but only that the document or law contemplates or requires such event to occur or obligation to be fulfilled.

Any statements made in the PRELIMINARY OFFICIAL STATEMENT and OFFICIAL STATEMENT involving estimates or matters of opinion, whether or not so expressly stated, are set forth as such and not as representations of fact, and no representation is made that any of the estimates or matters of opinion will be realized. Neither the PRELIMINARY OFFICIAL STATEMENT and OFFICIAL STATEMENT nor any statement which may have been made orally or in writing is to be construed as a contract with the owners of the Bonds.

The references, excerpts and summaries contained herein of certain provisions of the laws of the State of Tennessee, and any documents referred to herein, do not purport to be complete statements of the provisions of such laws or documents, and reference should be made to the complete provisions thereof for a full and complete statement of all matters of fact relating to the Bonds, the security for the payment of the Bonds, and the rights of the holders thereof.

The PRELIMINARY OFFICIAL STATEMENT and OFFICIAL STATEMENT, in final form, and any advertisement of the Bonds, is not to be construed as a contract or agreement between the City and the purchasers of any of the Bonds. Any statements or information printed in this PRELIMINARY OFFICIAL STATEMENT or the OFFICIAL STATEMENT, in final form, involving matters of opinions or of estimates, whether or not expressly so identified, is intended merely as such and not as representation of fact.

KUB, on behalf of the City, has deemed this PRELIMINARY OFFICIAL STATEMENT as “final” as of its date within the meaning of Rule 15c2-12 except for the omission of certain pricing information allowed to be omitted pursuant to Rule 15c2-12.

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# CERTIFICATION OF ISSUER

On behalf of the City and KUB, we hereby certify that to the best of our knowledge and belief, the information contained herein as of this date is true and correct in all material respects, and does not contain an untrue statement of material fact or omit to state a material fact required to be stated where necessary to make the statement made, in light of the circumstance under which they were made, not misleading.

KNOXVILLE UTILITIES BOARD

/s/______________________________
President and CEO

/s/______________________________
Senior Vice President and CFO

## APPENDIX A

# LEGAL OPINIONS

**LAW OFFICES OF**
**BASS, BERRY & SIMS PLC**
**900 SOUTH GAY STREET, SUITE 1700**
**KNOXVILLE, TENNESSEE 37902**

Ladies and Gentlemen:

We have acted as bond counsel in connection with the issuance by the City of Knoxville, Tennessee (the "Issuer") of $______________ Electric System Revenue Refunding Bonds, Series HH-2017, dated ________________, 2017 (the "Bonds"). In such capacity, we have examined the law and such certified proceedings and other papers as we deemed necessary to render this opinion.

As to questions of fact material to our opinion, we have relied upon the certified proceedings and other certifications of public officials and others furnished to us without undertaking to verify such facts by independent investigation.

Based on the foregoing, we are of the opinion, as of the date hereof, as follows:

1. The Bonds have been duly authorized, executed and issued in accordance with the constitution and laws of the State of Tennessee and are valid and binding obligations of the Issuer.

2. Resolution No. R-52-2017 of the City Council of the Issuer authorizing the Bonds has been duly and lawfully adopted, is in full force and effect and is a valid and binding agreement of the Issuer enforceable in accordance with its terms.

3. The principal of, premium, if any, and interest on the Bonds are payable solely from and secured by a pledge of the income and revenues to be derived from the operation of the electric system of the Issuer, subject only to the payment of the reasonable and necessary costs of operating, maintaining, repairing, and insuring said system and on a parity and equality of lien with the Issuer's outstanding Electric System Revenue Refunding Bonds, Series W-2005, dated August 10, 2005, maturing July 1, 2017 and thereafter to the extent, if any, not refunded with the proceeds of the Series HH-2017 Bonds, its outstanding Electric System Revenue Bonds, Series Y-2009, dated July 1, 2015, maturing July 1, 2017 and thereafter, its outstanding Electric System Revenue Bonds, Series Z-2010 (Federally Taxable Build America Bonds), dated December 8, 2010, maturing July 1, 2017 and thereafter, its outstanding Electric System Revenue Refunding Bonds, Series AA-2012, dated April 20, 2012, maturing July 1, 2017 and thereafter, its outstanding Electric System Revenue Bonds, Series BB-2012, maturing July 1, 2017 and thereafter, the City's outstanding Electric System Revenue Refunding Bonds, Series CC-2013, dated March 15, 2013, maturing July 1, 2017 and thereafter, its outstanding Electric System Revenue Bonds, Series DD-2014, dated September 18, 2014, maturing July 1, 2017 and thereafter, its outstanding Electric System Revenue Refunding Bonds, Series EE-2015, dated May 1, 2015, maturing July 1, 2017 and thereafter, its outstanding Electric System Revenue Bonds, Series FF-2015, dated May 20, 2015, maturing July 1, 2017 and thereafter and its outstanding Electric System Revenue Bonds, Series GG-2016, dated August 5, 2016, maturing July 1, 2017 and thereafter. We express no opinion as to the sufficiency of such revenues for the payment of principal of, premium, if any, or interest on the Bonds. The owners of the Bonds shall have no recourse to the power of taxation of the Issuer.

4. Interest on the Bonds (including any original issue discount properly allocable to an owner thereof) is excluded from gross income for federal income tax purposes, is not an item of tax

preference for purposes of the federal alternative minimum tax imposed on individuals and corporations; however, it should be noted that for purposes of computing the alternative minimum tax imposed on certain corporations (as defined for federal income tax purposes), such interest is taken into account in determining adjusted current earnings. The opinion set forth in the preceding sentence is subject to the condition that the Issuer comply with all requirements of the Internal Revenue Code of 1986, as amended, that must be satisfied subsequent to the issuance of the Bonds in order that interest thereon be, or continue to be, excluded from gross income for federal income tax purposes. The Issuer has covenanted to comply with all such requirements. Failure to comply with certain of such requirements could cause interest on the Bonds to be so included in gross income retroactive to the date of issuance of the Bonds. Except as set forth in this Paragraph 4, we express no opinion regarding other federal tax consequences arising with respect to the Bonds.

5. Under existing law, the Bonds and the income therefrom are exempt from all present state, county and municipal taxation in Tennessee except (a) Tennessee excise taxes on all or a portion of the interest on any of the Bonds during the period such Bonds are held or beneficially owned by any organization or entity, other than a sole proprietorship or general partnership, doing business in the State of Tennessee, and (b) Tennessee franchise taxes by reason of the inclusion of the book value of the Bonds in the Tennessee franchise tax base or any organization or entity, other than a sole proprietorship or general partnership, doing business in the State of Tennessee.

It is to be understood that the rights of the owners of the Bonds and the enforceability of the Bonds and the resolution authorizing the Bonds may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar laws affecting creditors' rights generally and by equitable principles, whether considered at law or in equity.

We express no opinion herein as to the accuracy, adequacy or completeness of the Official Statement relating to the Bonds.

This opinion is given as of the date hereof and we assume no obligation to update or supplement this opinion to reflect any facts or circumstances that may hereafter come to our attention or changes in law that may hereafter occur.

Very truly yours,

**LAW OFFICES OF**
**BASS, BERRY & SIMS PLC**
**900 SOUTH GAY STREET, SUITE 1700**
**KNOXVILLE, TENNESSEE 37902**

Ladies and Gentlemen:

We have acted as bond counsel in connection with the issuance by the City of Knoxville, Tennessee (the "Issuer") of $_________________ Gas System Revenue Refunding Bonds, Series W-2017, dated _________________, 2017 (the "Bonds"). In such capacity, we have examined the law and such certified proceedings and other papers as we deemed necessary to render this opinion.

As to questions of fact material to our opinion, we have relied upon the certified proceedings and other certifications of public officials and others furnished to us without undertaking to verify such facts by independent investigation.

Based on the foregoing, we are of the opinion, as of the date hereof, as follows:

1. The Bonds have been duly authorized, executed and issued in accordance with the constitution and laws of the State of Tennessee and are valid and binding obligations of the Issuer.

2. Resolution No. R-51-2017 of the City Council of the Issuer authorizing the Bonds has been duly and lawfully adopted, is in full force and effect and is a valid and binding agreement of the Issuer enforceable in accordance with its terms.

3. The principal of, premium, if any, and interest on the Bonds are payable solely from and secured by a pledge of the income and revenues to be derived from the operation of the gas system of the Issuer, subject only to the payment of the reasonable and necessary costs of operating, maintaining, repairing, and insuring said system and on a parity and equality of lien with the Issuer's outstanding Gas System Revenue Refunding Bonds, Series L-2005, dated August 10, 2005, maturing March 1, 2018 and thereafter to the extent, if any, not refunded with the proceeds of the Series W-2017 Bonds, its outstanding Gas System Revenue Refunding Bonds, Series N-2007, dated November 1, 2007, maturing March 1, 2018 and thereafter, its outstanding Gas System Revenue Bonds, Series P-2010 (Federally Taxable Build America Bonds), dated December 8, 2010, maturing March 1, 2018 and thereafter, its outstanding Gas System Revenue Refunding Bonds, Series Q-2012, dated April 20, 2012, maturing March 1, 2018 and thereafter, its outstanding Gas System Revenue Bonds, Series R-2012, dated December 18, 2012, maturing March 1, 2018 and thereafter, its outstanding Gas System Revenue Refunding Bonds, Series S-2013, dated March 15, 2013, maturing March 1, 2018 and thereafter, its outstanding Gas System Revenue Bonds, Series T-2013, dated October 1, 2013, maturing March 1, 2018 and thereafter, its outstanding Gas System Revenue Refunding Bonds, Series U-2015, dated May 1, 2015, maturing March 1, 2018 and thereafter and its outstanding Gas System Revenue Bonds, Series V-2016, dated August 5, 2016, maturing March 1, 2018 and thereafter. We express no opinion as to the sufficiency of such revenues for the payment of principal of, premium, if any, or interest on the Bonds. The owners of the Bonds shall have no recourse to the power of taxation of the Issuer.

4. Interest on the Bonds (including any original issue discount properly allocable to an owner thereof) is excluded from gross income for federal income tax purposes, is not an item of tax preference for purposes of the federal alternative minimum tax imposed on individuals and corporations; however, it should be noted that for purposes of computing the alternative minimum tax imposed on certain corporations (as defined for federal income tax purposes), such interest is taken into account in

determining adjusted current earnings. The opinion set forth in the preceding sentence is subject to the condition that the Issuer comply with all requirements of the Internal Revenue Code of 1986, as amended, that must be satisfied subsequent to the issuance of the Bonds in order that interest thereon be, or continue to be, excluded from gross income for federal income tax purposes. The Issuer has covenanted to comply with all such requirements. Failure to comply with certain of such requirements could cause interest on the Bonds to be so included in gross income retroactive to the date of issuance of the Bonds. Except as set forth in this Paragraph 4, we express no opinion regarding other federal tax consequences arising with respect to the Bonds.

5. Under existing law, the Bonds and the income therefrom are exempt from all present state, county and municipal taxation in Tennessee except (a) Tennessee excise taxes on all or a portion of the interest on any of the Bonds during the period such Bonds are held or beneficially owned by any organization or entity, other than a sole proprietorship or general partnership, doing business in the State of Tennessee, and (b) Tennessee franchise taxes by reason of the inclusion of the book value of the Bonds in the Tennessee franchise tax base or any organization or entity, other than a sole proprietorship or general partnership, doing business in the State of Tennessee.

It is to be understood that the rights of the owners of the Bonds and the enforceability of the Bonds and the resolution authorizing the Bonds may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar laws affecting creditors' rights generally and by equitable principles, whether considered at law or in equity.

We express no opinion herein as to the accuracy, adequacy or completeness of the Official Statement relating to the Bonds.

This opinion is given as of the date hereof and we assume no obligation to update or supplement this opinion to reflect any facts or circumstances that may hereafter come to our attention or changes in law that may hereafter occur.

Very truly yours,

**LAW OFFICES OF**
**BASS, BERRY & SIMS PLC**
**900 SOUTH GAY STREET, SUITE 1700**
**KNOXVILLE, TENNESSEE 37902**

Ladies and Gentlemen:

We have acted as bond counsel in connection with the issuance by the City of Knoxville, Tennessee (the "Issuer") of $_____________ Water System Revenue Refunding Bonds, Series FF-2017, dated _____________, 2017 (the "Bonds"). In such capacity, we have examined the law and such certified proceedings and other papers as we deemed necessary to render this opinion.

As to questions of fact material to our opinion, we have relied upon the certified proceedings and other certifications of public officials and others furnished to us without undertaking to verify such facts by independent investigation.

Based on the foregoing, we are of the opinion, as of the date hereof, as follows:

1. The Bonds have been duly authorized, executed and issued in accordance with the constitution and laws of the State of Tennessee and are valid and binding obligations of the Issuer.

2. Resolution No. R-50-2017 of the City Council of the Issuer authorizing the Bonds has been duly and lawfully adopted, is in full force and effect and is a valid and binding agreement of the Issuer enforceable in accordance with its terms.

3. The principal of, premium, if any, and interest on the Bonds are payable solely from and secured by a pledge of the income and revenues to be derived from the operation of the water distribution and treatment system of the Issuer, subject only to the payment of the reasonable and necessary costs of operating, maintaining, repairing, and insuring said system and on a parity and equality of lien with the Issuer's outstanding Water System Revenue Refunding Bonds, Series S-2005, dated August 10, 2005, maturing March 1, 2018 and thereafter to the extent not refunded by the Series FF-2017 Bonds, its outstanding Water System Revenue Bonds, Series T-2007, dated November 1, 2007, maturing March 1, 2018, its outstanding Water System Revenue Bonds, Series U-2009, dated November 12, 2009, maturing March 1, 2018 and thereafter, its outstanding Water System Revenue Bonds, Series W-2011, dated December 1, 2011, maturing March 1, 2018 and thereafter, its outstanding Water System Revenue Refunding Bonds, Series X-2012, dated April 20, 2012, maturing March 1, 2018 and thereafter, its outstanding Water System Revenue Refunding Bonds, Series Y-2013, dated March 15, 2013, maturing March 1, 2018 and thereafter, its outstanding Water System Revenue Bonds, Series Z-2013, dated October 1, 2013, maturing March 1, 2018 and thereafter, its outstanding Water System Revenue Bonds, Series AA-2014, dated September 18, 2014, maturing March 1, 2018 and thereafter, its outstanding Water System Revenue Refunding Bonds, Series BB-2015, dated May 1, 2015, maturing March 1, 2018 and thereafter, its outstanding Water System Revenue Bonds, Series CC-2015, dated May 20, 2015, maturing March 1, 2018 and thereafter, its outstanding Water System Revenue Bonds, Series DD-2016, dated August 5, 2016, maturing March 1, 2018 and thereafter and its outstanding Water System Revenue Refunding Bonds, Series EE-2016, dated August 5, 2016, maturing March 1, 2018 and thereafter. We express no opinion as to the sufficiency of such revenues for the payment of principal of, premium, if any, or interest on the Bonds. The owners of the Bonds shall have no recourse to the power of taxation of the Issuer.

4. Interest on the Bonds (including any original issue discount properly allocable to an owner thereof) is excluded from gross income for federal income tax purposes and is not an item of tax preference for purposes of the federal alternative minimum tax imposed on individuals and corporations; however, it should be noted that for purposes of computing the alternative minimum tax imposed on certain corporations (as defined for federal income tax purposes), such interest is taken into account in determining adjusted current earnings. The opinion set forth in the preceding sentence is subject to the condition that the Issuer comply with all requirements of the Internal Revenue Code of 1986, as amended, that must be satisfied subsequent to the issuance of the Bonds in order that interest thereon be, or continue to be, excluded from gross income for federal income tax purposes. The Issuer has covenanted to comply with all such requirements. Failure to comply with certain of such requirements could cause interest on the Bonds to be so included in gross income retroactive to the date of issuance of the Bonds. Except as set forth in this Paragraph 4, we express no opinion regarding other federal tax consequences arising with respect to the Bonds.

5. Under existing law, the Bonds and the income therefrom are exempt from all present state, county and municipal taxation in Tennessee except (a) Tennessee excise taxes on all or a portion of the interest on any of the Bonds during the period such Bonds are held or beneficially owned by any organization or entity, other than a sole proprietorship or general partnership, doing business in the State of Tennessee, and (b) Tennessee franchise taxes by reason of the inclusion of the book value of the Bonds in the Tennessee franchise tax base or any organization or entity, other than a sole proprietorship or general partnership, doing business in the State of Tennessee.

It is to be understood that the rights of the owners of the Bonds and the enforceability of the Bonds and the resolution authorizing the Bonds may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar laws affecting creditors' rights generally and by equitable principles, whether considered at law or in equity.

We express no opinion herein as to the accuracy, adequacy or completeness of the Official Statement relating to the Bonds.

This opinion is given as of the date hereof and we assume no obligation to update or supplement this opinion to reflect any facts or circumstances that may hereafter come to our attention or changes in law that may hereafter occur.

Very truly yours,

**LAW OFFICES OF**
**BASS, BERRY & SIMS PLC**
**900 SOUTH GAY STREET, SUITE 1700**
**KNOXVILLE, TENNESSEE 37902**

Ladies and Gentlemen:

We have acted as bond counsel in connection with the issuance by the City of Knoxville, Tennessee (the "Issuer") of $_______________ Wastewater System Revenue Refunding Bonds, Series 2017A, dated ____________, 2017 (the "Bonds"). In such capacity, we have examined the law and such certified proceedings and other papers as we deemed necessary to render this opinion.

As to questions of fact material to our opinion, we have relied upon the certified proceedings and other certifications of public officials and others furnished to us without undertaking to verify such facts by independent investigation.

Based on the foregoing, we are of the opinion, as of the date hereof, as follows:

1. The Bonds have been duly authorized, executed and issued in accordance with the constitution and laws of the State of Tennessee and are valid and binding obligations of the Issuer.

2. Resolution No. R-49-2017 of the City Council of the Issuer authorizing the Bonds has been duly and lawfully adopted, is in full force and effect and is a valid and binding agreement of the Issuer enforceable in accordance with its terms.

3. The principal of, premium, if any, and interest on the Bonds are payable solely from and secured by a pledge of the income and revenues to be derived from the operation of the wastewater treatment and collection system of the Issuer, subject only to the payment of the reasonable and necessary costs of operating, maintaining, repairing, and insuring said system and on a parity and equality of lien with the Issuer's outstanding Wastewater System Revenue Refunding Bonds, Series 2005B, dated August 10, 2005, maturing April 1, 2017 and thereafter to the extent, if any, not refunded with the proceeds of the Series 2017A Bonds, its outstanding Wastewater System Revenue Bonds, Series 2008, dated December 23, 2008, maturing April 1, 2017 and thereafter, its outstanding Wastewater System Revenue Bonds, Series 2010 (Federally Taxable Build America Bonds), dated February 20, 2010, maturing April 1, 2043 and thereafter, its outstanding Wastewater System Revenue Bonds, Series 2010C (Federally Taxable Build America Bonds), dated December 8, 2010, maturing April 1, 2017 and thereafter, its outstanding Wastewater System Revenue Refunding Bonds, Series 2012A, dated April 20, 2012, maturing April 1, 2017 and thereafter, its outstanding Wastewater System Revenue Bonds, Series 2012B, dated December 18, 2012, maturing April 1, 2017 and thereafter, its outstanding Wastewater System Revenue Refunding Bonds, Series 2013A, dated March 15, 2013, maturing April 1, 2017 and thereafter, its outstanding Wastewater System Revenue Bonds, Series 2014A, dated September 18, 2014, maturing April 1, 2017 and thereafter, its outstanding Wastewater System Revenue Refunding Bonds, Series 2015A, dated May 1, 2015, maturing April 1, 2017 and thereafter, and its outstanding Wastewater System Revenue Bonds, Series 2015B, dated May 20, 2015, maturing April 1, 2017 and thereafter and its outstanding Wastewater System Revenue Bonds, Series 2016, dated August 5, 2016, maturing April 1, 2017 and thereafter. We express no opinion as to the sufficiency of such revenues for the payment of principal of, premium, if any, or interest on the Bonds. The owners of the Bonds shall have no recourse to the power of taxation of the Issuer.

4. Interest on the Bonds (including any original issue discount properly allocable to an owner thereof) is excluded from gross income for federal income tax purposes, is not an item of tax preference for purposes of the federal alternative minimum tax imposed on individuals and corporations; however, it should be noted that for purposes of computing the alternative minimum tax imposed on certain corporations (as defined for federal income tax purposes), such interest is taken into account in determining adjusted current earnings. The opinion set forth in the preceding sentence is subject to the condition that the Issuer comply with all requirements of the Internal Revenue Code of 1986, as amended, that must be satisfied subsequent to the issuance of the Bonds in order that interest thereon be, or continue to be, excluded from gross income for federal income tax purposes. The Issuer has covenanted to comply with all such requirements. Failure to comply with certain of such requirements could cause interest on the Bonds to be so included in gross income retroactive to the date of issuance of the Bonds. Except as set forth in this Paragraph 4, we express no opinion regarding other federal tax consequences arising with respect to the Bonds.

5. Under existing law, the Bonds and the income therefrom are exempt from all present state, county and municipal taxation in Tennessee except (a) Tennessee excise taxes on all or a portion of the interest on any of the Bonds during the period such Bonds are held or beneficially owned by any organization or entity, other than a sole proprietorship or general partnership, doing business in the State of Tennessee, and (b) Tennessee franchise taxes by reason of the inclusion of the book value of the Bonds in the Tennessee franchise tax base or any organization or entity, other than a sole proprietorship or general partnership, doing business in the State of Tennessee.

It is to be understood that the rights of the owners of the Bonds and the enforceability of the Bonds and the resolution authorizing the Bonds may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar laws affecting creditors' rights generally and by equitable principles, whether considered at law or in equity.

We express no opinion herein as to the accuracy, adequacy or completeness of the Official Statement relating to the Bonds.

This opinion is given as of the date hereof and we assume no obligation to update or supplement this opinion to reflect any facts or circumstances that may hereafter come to our attention or changes in law that may hereafter occur.

Very truly yours,

# APPENDIX B-1

# THE ELECTRIC DIVISION

# THE ELECTRIC DIVISION

## INTRODUCTION

Knoxville Utilities Board ("KUB") was established in 1939 and, under terms of the current City Charter, is vested with the authority to purchase, produce, sell and distribute utility services both inside and outside the city limits. All of the facilities used to provide these services are under the jurisdiction, control and management of the Board of Commissioners of KUB.

## SOURCE OF ELECTRIC POWER

KUB does not generate any electric power. KUB purchases its entire power supply requirements from the Tennessee Valley Authority ("TVA") pursuant to a power contract dated May 11, 1988 as supplemented and amended (the "Power Contract"). The Power Contract is the fourth to be entered into between KUB and TVA. Under the Power Contract, TVA agrees to supply the amount of electric power required for service to KUB's electric customers and KUB agrees to purchase all of its electric power from TVA, about 6 billion kilowatt hours annually.

The Power Contract provides that TVA shall make every reasonable effort to increase the generating capacity of its system and to provide transmission facilities required to deliver the output thereof so as to be in a position to supply additional power when and to the extent needed by KUB. Neither TVA nor KUB is liable for breach of contract if the availability or use of power is interrupted or curtailed or if either party is prevented from performing under the Power Contract by circumstances reasonably beyond its control. The amount of power supplied by TVA and the contractual obligation to supply such power are limited by the capacity of TVA's generating and transmission facilities and the customary purchases from other companies on the power grid.

The Power Contract provides that KUB may sell power to all customers in its service area, except certain federal installations and large customers, which TVA may serve directly. At the present time, TVA does not directly serve any customers located within KUB's electric service territory.

The initial term of the contract was for twenty years, with an automatic one-year extension beginning on the tenth anniversary of the contract. In May 2002, KUB and TVA amended the contract in several ways to provide more flexibility to both parties. First, KUB's contract termination notification requirement was reduced from ten years to five years. Also, TVA relinquished its regulatory authority over KUB's electric retail rates (prior to May 2002, the Power Contract specified the retail rates to be charged by KUB, and KUB was obligated to adjust these rates in response to any adjustment in TVA wholesale rates. The adjustment of retail rates to cover changes in KUB cost also had to be approved by TVA).

To date the deregulation of the electric industry has not directly impacted the Tennessee Valley region. In April 1996 the Federal Energy Regulatory Commission (FERC) issued Order 888 which effectively ordered public interstate transmission companies to provide open access to their transmission systems. TVA, which is not presently subject to FERC jurisdiction, cannot be ordered by FERC to transmit (wheel) power on behalf of others for use inside its legislatively defined service territory (the "Fence"). Consequently, this "Anti-Cherry Picking" provision of federal law combined with KUB's long-term power contract with TVA has essentially precluded KUB from having the opportunity to purchase power from alternative sources.

## THE TENNESSEE VALLEY AUTHORITY

TVA was established as a wholly-owned corporate agency and instrumentality of the United States of America by the Tennessee Valley Authority Act of 1933, as amended. The Act's objective is the development of the resources of the Tennessee Valley and adjacent areas in order to strengthen the regional and national economy and the national defense. Its specific purposes include: (1) flood control on the Tennessee River and its tributaries, and assistance to flood control on the lower Ohio and the Mississippi Rivers; (2) a modern navigable channel for the Tennessee River; (3) an ample supply of power within an area of 80,000 square miles; (4) development and introduction of more efficient soil fertilizers; and (5) greater agricultural and industrial development and improved forestry in the region.

In 2005, Congress passed legislation that impacted TVA in two significant ways. First, it changed the structure of TVA's Board from a three-person, full-time Board to a nine-person, part-time Board, which meets at least four times per year. The new Board members, whose appointment terms are five years, were appointed by the President and confirmed by the Senate. All powers of TVA are vested in its Board. Second, the new law requires TVA to file periodic financial updates with the Securities and Exchange Commission (the "SEC"), and be subject to certain reporting requirements of the SEC.

## THE ELECTRIC SYSTEM

KUB's serves 202,843 electric customers over a 688 square mile service area, including portions of seven counties. The system includes over 5,321 miles of service lines and 63 distribution substations. The peak capacity of the system is 2,600 MVA. KUB's electric system experienced a record peak in demand of 1,328 megawatt hours in February 2015.

In 2007 KUB launched Century II, a new infrastructure management program, which includes life cycle replacement programs for all major assets for KUB's utility systems. KUB placed the programs on hold in 2009 in response to the economic recession in an effort to help customers struggling in the difficult economy. In April 2011, given the critical infrastructure needs of its systems, the KUB Board endorsed a plan to resume Century II in the fall of 2011. The Board formally endorsed ten-year funding plans to support the implementation of the programs, which included a combination of rate increases and debt issues to fully fund the programs over the next ten years. In September 2011, the Board adopted the first three rate increases of the ten-year funding plan for the electric system, which were effective October 2011, October 2012, and October 2013, respectively.

The electric distribution system is an older system with several major components nearing the end of or exceeding their respective service lives, including poles, underground electric cable, and certain substation transformers. In addition, KUB needs to upgrade certain existing circuits and build new circuits to provide greater operational flexibility and reduce storm restoration times.

Ten years of Century II funding for the electric system will result in the replacement of all critical substation transformers, 26,000 wood poles, and all direct-bury underground cable. By 2021, no poles older than the mid-1960s will remain on the distribution system.

Over the last three fiscal years, KUB has invested approximately $126.9 million in capital expenditures in its electric system Century II program. It is on track to achieve its target replacement goals for the ten-year plan endorsed by the KUB Board in 2011.

In June 2014, the Board approved the next phase of rate increases to support the Century II program. The July 2014 and 2015 rate increases have each provided an additional $5 million in annual revenue to help fund the Electric Division, as will the July 2016 increase.

## GRID MODERNIZATION

In fiscal year 2015, KUB concluded the smart grid pilot project, of which a portion of the project was funded by the United States Department of Energy Smart Grid Investment Grant (SGIG). This grant was received by KUB in 2009 as part of the American Reinvestment and Recovery Act (ARRA). Based upon the success of that pilot, KUB formed a plan to move forward with a Century II Grid Modernization effort which includes advanced metering for all KUB customers, a telecommunication system linking critical KUB infrastructure, and an increased investment in automation technology to help operate KUB's energy and water distribution systems.

In April 2016, KUB management presented the fiscal year 2017 budget to the KUB Board of Commissioners that accommodates the projected level of capital investment for the fiscal year. Over the course of the next ten years KUB plans to spend approximately $108 million dollars on Grid Modernization, of which the Division's share is approximately $69.7 million. In July 2016, the four-year deployment of advanced meters began. The deployment is funded in large part by debt issues and incremental rate increases.

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## PENSION PLAN

### Description of Plan

The Knoxville Utilities Board Pension Plan (the Plan) is a governmental plan as defined by the Employee Retirement Income Security Act of 1974 ("ERISA" or the "Act"), is not subject to any of the provisions of the Act, and was revised January 1, 2014 to include all prior approved amendments. The Plan is a single-employer contributory, defined benefit pension plan established by Knoxville Utilities Board ("KUB") Resolution No. 980 dated February 18, 1999, effective July 1, 1999, as authorized by the Charter of the City of Knoxville §1107(J). The Plan is designed to provide retirement, disability and death benefits to KUB employees. KUB administers the Plan through an Administrative Committee consisting of seven KUB employees that are appointed by KUB's President and CEO. Any amendments to the Plan involving costs not approved in the operating budget must be adopted by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Plan may be approved by KUB's President and CEO upon 60 days notification to the KUB Audit and Finance Committee. The Plan issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017. For purposes of this disclosure, presentation is on a consolidated basis unless division's share is specified.

Effective January 1, 2011, KUB closed the Plan such that persons employed or re-employed by KUB on or after January 1, 2011, are not eligible to participate, but that eligible employees hired prior to January 1, 2011, who have not separated from service, shall continue as Participants and to accrue benefits under the Plan.

Participants in the Plan consisted of the following as of December 31:

| | **2015** | **2014** |
|---|---|---|
| Inactive plan members: | | |
| Terminated vested participants | 39 | 40 |
| Retirees and beneficiaries | 628 | 627 |
| Active plan members | 692 | 725 |
| Total | 1,359 | 1,392 |

### Retirement Benefits

The Plan provides three benefit arrangements for KUB participants, retirees, and beneficiaries.

The Plan provides pension benefits through the Career Equity Program ("CEP") for eligible employees hired on or after January 1, 1999, and for eligible former "City System Plan A" participants who elected CEP coverage as of July 1, 1999. The guaranteed pension benefit payable to a participant who has completed five or more years of service (or reached the normal retirement date, if earlier) upon termination of KUB employment shall be a lump sum equal to the participant's average compensation times their benefit percentage, as defined in the Plan document, or an annuity may be chosen by the participant.

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In addition, the Plan provided retirement benefits through “Plan A” for former City System Plan A participants who elected not to participate in the CEP. Plan A is a closed plan and is not available to KUB employees hired after July 1, 1999. Plan A provides for early retirement benefits with 25 years of service and normal retirement benefits at age 62 or later. Benefits provided to Plan A participants include several different forms of monthly annuity payments.

The Plan also provides retirement benefits through “Plan B” for former “City System Plan B” participants. Plan B is a closed plan providing benefits to participants not covered by Social Security. Benefits provided to Plan B participants include several different forms of monthly annuity payments available to participants.

Effective January 1, 2012, KUB began to provide for additional monthly supplements, which will not be subject to cost of living adjustments, to certain former employees and surviving dependents of former employees who are eligible for and have elected coverage under the KUB retiree medical plan and are eligible for Medicare. This was done to address the loss of drug coverage under the KUB retiree medical plan and to assist such individuals in obtaining prescription drug coverage under Medicare Part D.

### Contributions

Participation in Plan A requires employee contributions of 3 percent of the first $4,800 of annual earnings and 5 percent of annual earnings in excess of $4,800. Plan B participants may not make contributions to the Plan. KUB contributions are determined by the enrolled actuary of the Plan and equal the amount necessary to provide the benefits under the Plan determined by the application of accepted actuarial methods and assumptions. The method of funding shall be consistent with Plan objectives.

### Plan Funding

KUB maintains a Funding Policy for the Plan in accordance with Tennessee State Law. The primary goal of the Policy is to document the method KUB has adopted to provide assurance that future KUB and employee contributions and current Plan assets will be sufficient to fund all benefits expected to be paid to current active, inactive and retired Plan participants and their beneficiaries. Per the Funding Policy, KUB fully funds its annual Actuarially Determined Contribution.

### Investments

The Plan’s investments are held by State Street Bank and Trust Company (the “Trustee”). The Plan's policy in regard to the allocation of invested assets is established by the Investment Committee and approved by the KUB Board of Commissioners and may only be amended by the KUB Board of Commissioners. It is the policy of the Investment Committee to pursue an investment strategy that reduces risk through the prudent diversification of the portfolio across a broad selection of distinct asset classes. The following was the Plan's adopted asset allocation policy as of December 31, 2015:

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| Asset Class | Target Allocation |
|---|---|
| Domestic equity – large cap | 20% - 50% |
| Domestic equity – mid cap | 0% - 15% |
| Domestic equity – small cap | 0% - 15% |
| Domestic equity - convertible securities | 0% - 10% |
| Non-U.S. equity | 0% - 20% |
| Real estate equity | 0% - 10% |
| Fixed income – aggregate bonds | 5% - 25% |
| Fixed income – long-term bonds | 10% - 25% |
| Cash and deposits | 0% - 5% |

Contributions of $5,669,380 and $6,314,399 for 2014 and 2013, respectively, were made during KUB's fiscal years ending June 30, 2016 and 2015, respectively. Of these amounts, $2,721,302 and $3,030,911 are attributable to the Electric Division. The contribution was determined as part of the January 1, 2014 valuation using the Individual Entry Age Normal funding method. The objective under this method is to fund each participant's benefits under the Plan as payments which are level as a percentage of salary, starting on the original participation date (employment date) and continuing until the assumed retirement, termination, disability or death. The actuarial valuation for the Plan year ending December 31, 2015 resulted in an actuarially determined contribution of $4,816,913 for the fiscal year ending June 30, 2017, based on the Plan's current funding policy. The Electric Division's portion of this contribution is $2,312,118.

Subsequent to June 30, 2016, the actuarial valuation for the Plan year ending December 31, 2016 was completed. The actuarial valuation resulted in an actuarially determined contribution of $3,756,283 for the fiscal year ending June 30, 2018, based on the Plan's current funding policy. The Electric Division's portion of this contribution is $1,803,016. For the Plan year ending December 31, 2016, the Plan's actuarial funded ratio was 103.04 percent.

The actuarial valuations for the Plan years ending December 31, 2015 and 2016, which determine the actuarially determined contribution for future fiscal years ending June 30, 2017 and 2018, have not been audited.

**Implementation of GASB 68**

In fiscal year 2015, KUB adopted GASB Statement No. 68, Accounting and Financial Reporting for Pensions – an amendment of GASB Statement No. 27("GASB 68"), which requires measurement of the net pension liability as total pension liability less the amount of the Plan's fiduciary net position. The amounts reported as of June 30 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2016 and 2015 will be based on the December 31, 2015 and 2014 measurement date, respectively. The Division's share of the net pension liability at June 30, 2016 is $2,419,277 and net pension asset at June 30, 2015 is $2,890,382.

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GASB 68 requires certain disclosures related to the net pension liability of the Plan as disclosed below:

| | | **2015** | | **2014** |
|---|---|---|---|---|
| Total pension liability | $ | 204,502,350 | $ | 202,773,764 |
| Plan fiduciary net position | | 199,462,190 | | (208,795,394) |
| Plan's net pension liability (asset) | $ | 5,040,160 | $ | (6,021,630) |
| Plan fiduciary net position as a percentage of the total pension liability | | 97.54% | | 102.97% |

Changes in Net Pension Liability are as follows:

| | | Total Pension Liability (a) | | Increase (Decrease) Plan Fiduciary Net Position (b) | | Net Pension Liability (a) - (b) |
|---|---|---|---|---|---|---|
| Balances at December 31, 2014 | $ | 202,773,764 | $ | 208,795,394 | $ | (6,021,630) |
| Changes for the year: | | | | | | |
| Service cost | | 4,157,062 | | - | | 4,157,062 |
| Interest | | 14,812,784 | | - | | 14,812,784 |
| Differences between Expected and Actual Experience | | (1,890,334) | | - | | (1,890,334) |
| Changes of Assumptions | | - | | - | | - |
| Contributions - employer | | - | | 5,991,887 | | (5,991,887) |
| Contributions - rollovers | | - | | 482,060 | | (482,060) |
| Contributions - member | | - | | 5,486 | | (5,486) |
| Net investment income | | - | | (64,551) | | 64,551 |
| Benefit payments | | (15,350,926) | | (15,350,926) | | - |
| Administrative expense | | - | | (397,160) | | 397,160 |
| Net changes | | 1,728,586 | | (9,333,204) | | 11,061,790 |
| Balances at December 31, 2015 | $ | 204,502,350 | $ | 199,462,190 | $ | 5,040,160 |

*Actuarial Assumptions.* The total pension liability was determined by an actuarial valuation as of December 31, 2015 and 2014, using the following actuarial assumptions, applied to all periods included in the measurement:

| | |
|---|---|
| Actuarial cost method: | Individual entry age |
| Asset valuation method: | 5-year smoothed market |
| Amortization method: | Level dollar closed period with 28 years remaining as of January 1, 2013 and 27 years remaining as of January 1, 2014 |
| Discount rate: | 8% at January 1, 2013 and 7.5% at January 1, 2014 |
| Salary increases: | From 2.58% to 7.92% for January 1, 2013 and from 2.80% to 5.15% for January 1, 2014, based on years of service |
| Mortality: | Sex distinct RP-2000 Combined Mortality projected to 2018 using Scale AA for the January 1, 2013 valuation. Sex distinct |

| | |
|---|---|
| | RP-2000 Combined Mortality projected to 2024 using Scale AA for the January 1, 2014 valuation |
| Inflation | 2.8 percent |

The actuarial assumptions used in the December 31, 2015 valuation were based on the results of an actuarial experience study for the period January 1, 2009 through December 31, 2013.

The long-term expected rate of return on Plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the Plan's target asset allocation as of December 31, 2015 and 2014 are summarized in the following table. The real rate of return reported for fixed income is for aggregate fixed income. The Plan has both aggregate and long duration fixed income.

| | Long Term Expected Real Rate of Return | |
|---|---|---|
| **Asset Class** | **2015** | **2014** |
| Domestic equity | 7.2% | 6.0% |
| Non-U.S. equity | 7.4% | 7.0% |
| Real estate equity | 6.5% | 5.7% |
| Fixed income | 3.7% | 1.8% |
| Cash and deposits | 2.6% | 0.5% |

*Discount rate.* The discount rate used to measure the total pension liability was 7.5 percent as of January 1, 2015 and 2014. The projection of cash flows used to determine the discount rate assumed that participant contributions will be made at the current contribution rate and that KUB contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

*Sensitivity of the net pension liability to changes in the discount rate.* The following presents the net pension liability of the Plan as of December 31, 2015, calculated using the discount rate of 7.5 percent, as well as what the Plan's net pension liability would be if it were calculated using a discount rate that is one percent lower (6.5 percent) or one percent higher (8.5 percent) than the current rate:

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| | 1% Decrease (6.5%) | Current Discount Rate (7.5%) | 1% Increase (8.5%) |
|---|---|---|---|
| Plan's net pension liability | $ 17,128,897 | $ 5,040,160 | $ (5,963,331) |

**Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions**

For the year ended June 30, 2015, KUB recognized pension expense of $2,749,905 (Division's share $1,319,954).

The impact of experience gains or losses and assumption changes on the Total Pension Liability are recognized in expense over the average expected remaining service life of all active and inactive members. As of the measurement date, this recognition period was 3.72 years. However, there were no experience gains or losses, and there were no assumption changes during the measurement year.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment gain of $7,972,887. $1,594,577 of that gain was recognized in the current year and an identical amount will be recognized in each of the next four years, resulting in a deferred inflow of resources of $6,378,310 (Division's share $3,061,589). The table below summarizes the current balances of deferred outflows and deferred inflows of resources along with the net recognition over the next five years. In addition, KUB recorded a deferred outflow of resources of $3,157,199 (Division's share $1,515,455) at June 30, 2015 for employer contributions made between December 31, 2014 and June 30, 2015.

| | Deferred Outflows of Resources | Deferred Inflows of Resources |
|---|---|---|
| Differences between expected and actual experience | $ - | $ - |
| Changes in assumptions | - | - |
| Net difference between projected and actual earnings on pension plan investments | - | 6,378,310 |
| Contributions subsequent to measurement date | 3,157,199 | - |
| Total | $ 3,157,199 | $ 6,378,310 |

For the year ended June 30, 2016, KUB recognized pension expense of $4,665,035 (Division's share $2,239,217).

The impact of experience gains or losses and assumption changes on the Total Pension Liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2014, this average was 5.00 years. During the measurement year, there were no assumption or benefit changes. There was an experience gain of $1,890,334 with $378,067 of that recognized in the current year and in each of the next four years.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment loss of $15,382,915. $3,076,583 of that loss was recognized in the current year and an identical amount will be recognized in each of the next four years. Unrecognized investment gains from prior periods were $6,378,310 of which $1,594,577 was recognized as a reduction in pension expense in the current year.

Experience gains this year created a deferred inflow of resources of $1,512,267 (Division's share $725,888). The combination of unrecognized investment losses this year along with unrecognized net investment gains from prior periods results in a deferred outflow of resources as of December 31, 2015 of $7,522,599 (Division's share $3,610,848). The table below summarizes the current balances of deferred outflows and deferred inflows of resources along with the net recognition over future years. In addition, KUB recorded a deferred outflow of resources of $2,834,692 (Division's share $1,360,652) at June 30, 2016 for employer contributions made between December 31, 2015 and June 30, 2016.

| | Deferred Outflows of Resources | Deferred Inflows of Resources |
|---|---|---|
| Differences between expected and actual experience | $ - | $ 1,512,267 |
| Changes in assumptions | - | - |
| Net difference between projected and actual earnings on pension plan investments | 7,522,599 | - |
| Contributions subsequent to measurement date | 2,834,692 | - |
| Total | $ 10,357,291 | $ 1,512,267 |

Amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:

| Year ended June 30: | |
|---|---|
| 2017 | $ 3,938,630 |
| 2018 | 1,103,939 |
| 2019 | 1,103,938 |
| 2020 | 2,698,517 |
| Thereafter | - |

## OTHER POST-EMPLOYMENT BENEFITS (OPEB)

The Governmental Accounting Standards Board (GASB) established standards for the measurement, recognition, and reporting of other post-employment benefits (OPEB). OPEB includes post-employment benefits other than pension, which, for KUB, is presently limited to post-employment health care. GASB Statement No. 45 (Statement No. 45) requires the recognition of the accrued OPEB liability for the respective year, plus the disclosure of the total unfunded liability.

KUB currently provides post-employment health care benefits to 585 former employees and 593 covered dependents. The cost of coverage is shared with retirees and beneficiaries.

KUB recognizes its share of the cost of post-employment health care benefits as an expense as claims are paid.

KUB amended its Group Health Plan in 1999, eliminating post-employment health care benefits for all employees hired on or after July 1, 1999. As of June 30, 2016, 356 active employees were eligible for individual and dependent coverage at separation. To qualify, the employee must meet the Rule of 80 (age plus years of service) with a minimum of 20 years of service, and be enrolled in medical coverage on their last day.

In May 2006, the State of Tennessee adopted Tennessee Code Annotated, Title 8, Chapter 50, Part 12 authorizing governmental entities to establish Trusts for the purpose of pre-funding their respective OPEB liabilities.

Although Statement No. 45 does not require pre-funding of the liability, KUB has determined that it is in the long-term economic interest of KUB and its ratepayers to establish a Trust to pre-fund KUB's OPEB liability.

Knoxville Utilities Board Other Post-Employment Benefits Trust (the "Trust") is a single-employer Other Post-Employment Benefits Plan established by the Knoxville Utilities Board (KUB) Board of Commissioners through Resolution No. 1168, as amended, dated October 18, 2007. The applicable documentation was submitted to the State Funding Board and, in December 2007, the State Funding Board approved the Trust. The Trust was also approved by the Internal Revenue Service in June 2008. KUB administers the Trust through a Board of Trustees consisting of seven KUB employees that are appointed by KUB's President and CEO. Any amendments to the Trust involving costs not approved in the operating budget must be approved by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Trust may be approved by KUB's President and CEO upon 60 days notification to the KUB Audit and Finance Committee. The investment of all deposits to the Trust is governed by an Investment Policy, which was adopted by the KUB Board and approved by the State Funding Board.

KUB makes annual contributions to the Trust at an actuarially determined rate. Based on the date of retirement, certain retired plan members are required to contribute specified amounts monthly to maintain health insurance. Those who retired prior to July 1983 have no required monthly premiums for themselves or dependents. The retirees, or their surviving dependents, who retired between August 1983 and January 1998 are required to pay $250 per month for pre-Medicare family health insurance. For individuals who retired after January 1998, the required monthly premium for pre-Medicare health insurance is $250 for single coverage and $500 for family coverage. There is currently no premium for Medicare eligible retirees or dependents.

An actuarial valuation of KUB's Postretirement Benefit Plan was performed for the Trust as of January 1, 2014 for fiscal year June 30, 2015 and January 1, 2015 for fiscal year June 30, 2016. The following table presents the OPEB cost for the year, the amount contributed to the Trust, and changes in the net OPEB obligation for fiscal year ending June 30:

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| | | 2016 | 2015 |
|---|---|---|---|
| **a)** | Net OPEB Obligation/(Asset) at beginning of fiscal year | $ (174,410) | $ (177,322) |
| **b)** | Annual Required Contribution (ARC) | 953,221 | 3,497,372 |
| **c)** | Interest on Net OPEB Obligation/(Asset) | (13,081) | (14,186) |
| **d)** | Adjustment to ARC | (16,427) | (17,098) |
| **e)** | Annual OPEB Cost **(b+c-d)** | 956,567 | 3,500,284 |
| **f)** | Employer Contributions | 953,221 | 3,497,372 |
| **g)** | Net OPEB Obligation/(Asset) at end of fiscal year **(a+e-f)** | $ (171,064) | $ (174,410) |

KUB's annual OPEB cost, the percentage of annual OPEB cost contributed to the Trust, and the net OPEB obligation for fiscal year 2016 and the two preceding years were as follows:

**Schedule of Employer Contributions**

| Actuarial Valuation Date | Employer Fiscal Year | Annual Required Contribution | Fiscal Year Actual Contribution | Percentage Contributed | Net OPEB Obligation |
|---|---|---|---|---|---|
| 1/1/2012 | 6/30/2014 | 3,327,412 | 4,057,091 | 121.93% | (177,322) |
| 1/1/2013 | 6/30/2015 | 3,497,372 | 3,497,372 | 100.00% | (174,410) |
| 1/1/2014 | 6/30/2016 | 953,221 | 953,221 | 100.00% | (171,064) |

Total contributions to the OPEB Trust for the fiscal year ended June 30, 2016 were $953,221 (Division's share $457,546). The contribution to the Trust was consistent with the annual required contribution, as determined by the Postretirement Benefit Plan's actuarial valuation as of January 1, 2014, which was $953,221 (Division's share $457,546). As of June 30, 2016, the employer's OPEB obligation has been exceeded by $171,064 (Division's share $82,111).

The annual required contribution for the fiscal year ending June 30, 2017, as determined by the Plan's actuarial valuation as of January 1, 2015 is $620,015 (Division's share $297,607).

The actuarial valuation for the Plan as of January 1, 2016 has been completed. The valuation determined that the Plan's actuarial accrued liability was $45,118,624 (Division's share $21,656,940). The actuarial value of the Plan's assets was $48,510,796 (Division's share $23,285,182). As a result, the Plan's unfunded actuarial accrued liability was ($3,392,172) (Division's share ($1,628,243)). The Plan's actuarial funded ratio was 108 percent. Due to the future implementation of GASB 75, the contributions made for fiscal year ending June 30, 2018 will be the actuarially determined contribution instead of the annual required contribution and the actuarial cost method used to determine the contributions will change from the projected unit credit cost method to the entry age normal cost method. The actuarially determined contribution for fiscal year ending June 30, 2018 will be zero. See Required Supplementary Information for OPEB Schedule of Funding Progress.

The actuarial valuations dated January 1, 2015 and 2016, which determine the annual required contribution and actuarially determined contribution for future fiscal years ending June 30, 2017 and 2018, have not been audited.

Actuarial valuations involve estimates of the value of reported amounts and assumptions about the probability of events far into the future, and actuarially determined amounts are subject to continual revision as actual results are compared to past expectations and new estimates are made about the future.

The required schedule of funding progress immediately following the notes to the financial statements presents multi-year trend information about whether the actuarial value of Trust assets is increasing or decreasing over time relative to the actuarial accrued liability for benefits.

Calculations are based on the benefits provided under the terms of the substantive plan in effect at the time of each valuation and on the pattern of sharing of costs between the employer and plan members to that point.

Actuarial calculations reflect a long-term perspective. Consistent with that perspective, actuarial methods and assumptions used include techniques that are designed to reduce short-term volatility in actuarial accrued liabilities and the actuarial value of assets.

Identification of actuarial methods and significant assumptions used to determine the annual required contribution for the fiscal year ending June 30, 2016:

| | |
|---|---|
| I. Actuarial cost method | Projected unit credit cost method |
| II. Actuarial value of assets | Smoothed market value with phase-in method using a smoothing period of 5 years |
| III. Investment return | 7.5%, based on the expected portfolio return |
| Projected salary increases | N/A |
| Healthcare cost Trend: | |
| Medicare | 2014 - 2030+, ranging from 4.5% to 7.45% |
| Non-Medicare | 2014 - 2030+, ranging from 4.5% to 8.75% |
| IV. Amortization method | Level dollar closed (30-year) |
| Remaining amortization period | 22 years |

The Trust issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement Division, P.O. Box 59017, Knoxville, TN 37950-9017.

## FISCAL YEAR 2017 FINANCIAL UPDATE

For the five months ending November 30, 2016, KUB's Electric Division recorded earnings of $7 million, representing a decrease of $0.5 million over the same period last fiscal year. Electric sales volumes were 4.8 percent higher than the same period last fiscal year, reflecting higher than normal cooling degree days. This increase was partially offset by increased interest on long term debt.

The Electric Division sold $40 million in revenue bonds in July 2016 for the purpose of funding electric system capital improvements. As of November 30, 2016, the Electric Division had $267.9 million in outstanding debt, representing a debt to capitalization ratio of 44 percent. The Electric Division's current maximum debt service coverage ratio is projected to be 3.00.

Capital investment in electric system infrastructure is projected to be approximately $53.9 million for Fiscal Year 2017, reflecting KUB's continued commitment to the timely replacement of critical electric system assets, including poles, underground cable, and substation transformers, in addition to key overhead line and substation improvement projects.

## ELECTRIC RATES

The rate schedules of the Electric Division are subject to the approval of the KUB Board of Commissioners. In October 2002, the Board established a Purchased Power Adjustment (the "PPA") mechanism, which provides for the adjustment of applicable electric rates to changes in TVA's wholesale power costs. In October 2006, TVA incorporated a Fuel Cost Adjustment that is evaluated on a quarterly basis to reflect change in the TVA's fuel costs. These fuel cost adjustments are flowed through the KUB's electric customers via the PPA mechanism. In October of 2009 TVA's Fuel Cost Adjustments were changed to a monthly evaluation.

In April 2011, TVA modified its wholesale rate structure to demand and energy billing for its distributors. In response, KUB revised its Purchased Power Adjustment to include a deferred accounting component to ensure appropriate matching of revenue and expenses and power cost recovery. KUB will adjust its retail rates on an annual basis to flow any over or under recovery of wholesale power costs through to its customers via the Purchased Power Adjustment.

The October 2016 rate schedules of the Electric Division are as follows:

### *Residential Rate - Schedule RS*

#### Availability

This rate shall apply only to electric service to a single-family dwelling and its appurtenances, where the major use of electricity is for domestic purposes such as lighting, household appliances, and the personal comfort and convenience of those residing therein.

#### Character of Service

Alternating current, single-phase, 60 hertz. Power shall be delivered at a service voltage available in the vicinity or agreed to by KUB. Multi-phase service shall be supplied in accordance with KUB's standard policy.

### Base Charges

| | | |
|---|---|---|
| Customer Charge: | | $16.00 per month |
| Energy Charge: | | |
| | Summer Period | 9.271¢ per kWh per month |
| | Winter Period | 9.230¢ per kWh per month |
| | Transition Period | 9.230¢ per kWh per month |

### Adjustment

Charges under this rate schedule may be increased or decreased to reflect changes in purchased power costs as determined by any purchased power adjustment adopted by the Board.

### Determination of Seasonal Periods

Summer Period shall mean the June, July, August, and September billing months. Winter Period shall mean the December, January, February, and March billing months. Transition Period shall mean the April, May, October, and November billing months.

### Minimum Monthly Bill

The base customer charge constitutes the minimum monthly bill for all customers served under this rate schedule except those customers for which a higher minimum monthly bill is required under KUB's standard policy because of special circumstances affecting the cost of rendering service.

### Single Point Delivery

The charges under this rate schedule are based upon the supply of service through a single delivery and metering point, and at a single voltage.

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

## *GENERAL POWER RATE - SCHEDULE GSA*

### Availability

This rate shall apply to the firm power requirements (where a customer's contract demand is 5,000 kW or less) for electric service to commercial, industrial, and governmental customers, and institutional customers including without limitation, churches, clubs, fraternities, orphanages, nursing homes, rooming or boarding houses, and like customers. This rate shall also apply to customers to whom service is not available under any other resale rate schedule.

## Character of Service

Alternating current, single or three-phase, 60 hertz. Power shall be delivered at a service voltage available in the vicinity or agreed to by KUB.

## Base Charges

1. If (a) the higher of (i) the customer's currently effective contract demand, if any, or (ii) its highest billing demand during the latest 12-month period is not more than 50 kW and (b) the customer's monthly energy takings for any month during such period do not exceed 15,000 kWh:

| | |
|---|---|
| Customer Charge: | $24.00 per delivery point per month |
| Energy Charge: | |
| Summer Period - | 10.713¢ per kWh per month |
| Winter Period - | 10.672¢ per kWh per month |
| Transition Period - | 10.672¢ per kWh per month |

2. If (a) the higher of (i) the customer's currently effective contract demand or (ii) its highest billing demand during the latest 12-month period is greater than 50 kW but not more than 1,000 kW or (b) the customer's billing demand is less than 50 kW and its energy takings for any month during such period exceed 15,000 kWh:

| | |
|---|---|
| Customer Charge: | $65.00 per delivery point per month |
| Demand Charge: | |
| Summer Period - | First 50 kW of billing demand per month, no demand charge |
| | Excess over 50 kW of billing demand per month, at $14.13 per kW |
| Winter Period - | First 50 kW of billing demand per month, no demand charge |
| | Excess over 50 kW of billing demand per month, at $13.34 per kW |
| Transition Period - | First 50 kW of billing demand per month, no demand charge |
| | Excess over 50 kW of billing demand per month, at $13.34 per kW |
| Energy Charge: | |
| Summer Period - | First 15,000 kWh per month at 12.381¢ per kWh |
| | Additional kWh per month at 6.248¢ per kWh |
| Winter Period - | First 15,000 kWh per month at 12.340¢ per kWh |
| | Additional kWh per month at 6.248¢ per kWh |
| Transition Period - | First 15,000 kWh per month at 12.340¢ per kWh |
| | Additional kWh per month at 6.248¢ per kWh |

3. If the higher of (a) the customer's currently effective contract demand or (b) its highest billing demand during the latest 12-month period is greater than 1,000 kW:

| | | |
|---|---|---|
| Customer Charge: | | $170.00 per delivery point per month |
| Demand Charge: | | |
| | Summer Period - | First 1,000 kW of billing demand per month, at $14.71 per kW<br>Excess over 1,000 kW of billing demand per month, at $15.34 per kW, plus an additional<br>$15.34 per kW per month for each kW, if any, of the amount by which the customer's billing demand exceeds the higher of 2,500 kW or its contract demand |
| | Winter Period - | First 1,000 kW of billing demand per month, at $13.95 per kW<br>Excess over 1,000 kW of billing demand per month, at $14.58 per kW, plus an additional<br>$14.58 per kW per month for each kW, if any, of the amount by which the customer's billing demand exceeds the higher of 2,500 kW or its contract demand |
| | Transition Period - | First 1,000 kW of billing demand per month, at $13.95 per kW<br>Excess over 1,000 kW of billing demand per month, at $14.58 per kW, plus an additional<br>$14.58 per kW per month for each kW, if any, of the amount by which the customer's billing demand exceeds the higher of 2,500 kW or its contract demand |
| Energy Charge: | | |
| | Summer Period - | 6.789¢ per kWh per month |
| | Winter Period - | 6.789¢ per kWh per month |
| | Transition Period - | 6.789¢ per kWh per month |

## Adjustment

Charges under this rate schedule may be increased or decreased to reflect changes in purchased power costs as determined by any purchased power adjustment adopted by the Board.

## Determination of Seasonal Periods

Summer Period shall mean the June, July, August, and September billing months. Winter Period shall mean the December, January, February, and March billing months. Transition Period shall mean the April, May, October, and November billing months.

## Determination of Demand

KUB shall meter the demands in kW of all customers having loads in excess of 50 kW. The metered demand for any month shall be the highest average during any 30-consecutive-minute period of the month of the load metered in kW. The measured demand for any month shall be the higher of the highest average during any 30-consecutive-minute period of the month of (a) the load metered in kW or (b) 85 percent of the load in kVA plus an additional 10 percent for that part of the load over 5,000 kVA, and such measured demand shall be used as the billing demand, except that the billing demand for any month shall in no case be less than 30 percent of the higher of the currently effective contract demand or the highest billing demand established during the preceding 12 months.

## Minimum Bill

The monthly bill under this rate schedule shall not be less than the sum of (a) the base customer charge, (b) the base demand charge, as adjusted, applied to the customer's billing demand, and (c) the base energy charge, as adjusted, applied to the customer's energy takings; provided, however, that, under (2.) of the Base Charges, the monthly bill shall in no event be less than the sum (a) the base customer charge and (b) 20 percent of the portion of the base demand charge, as adjusted, applicable to the second block (excess over 50kW) of billing demand, multiplied by the higher of the customer's currently effective contract demand or its highest billing demand established during the preceding 12 months.

KUB may require minimum bills higher than those stated above.

## Contract Requirements

KUB shall require contracts for service provided under this rate schedule to customers whose demand requirements exceed 1,000 kW and such contracts shall be for an initial term of at least one year. The customer shall contract for its maximum requirements, which shall not exceed the amount of power capable of being used by customer, and KUB shall not be obligated to supply power in greater amount at any time than the customer's currently effective contract demand. If the customer uses any power other than that supplied by KUB under this rate schedule, the contract may include other special provisions. The rate schedule in any power contract shall be subject to adjustment, modification, change, or replacement from time to time as approved by the Board.

## Single – Point Delivery

The charges under this rate schedule are based upon the supply of service through a single delivery and metering point, and at a single voltage. If service is supplied to the same customer through more than one point of delivery or at different voltages, the supply of service at each delivery and metering point at each different voltage shall be separately metered and billed.

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

## *OUTDOOR LIGHTING RATE - SCHEDULE LS*

### Availability

Available for service to street and park lighting systems, traffic signal systems, athletic field lighting installations, and outdoor lighting for individual customers.

Service under this schedule is for a term of not less than one year.

### Determination of Seasonal Periods

Summer Period shall mean the June, July, August, and September billing months. Winter Period shall mean the December, January, February, and March billing months. Transition Period shall mean the April, May, October, and November billing months.

### PART A – CHARGES FOR STREET AND PARK LIGHTING SYSTEMS, TRAFFIC SIGNAL SYSTEMS, AND ATHLETIC FIELD LIGHTING INSTALLATIONS

I. Energy Charge:

| | |
|---|---|
| Summer Period - | 7.847¢ per kWh per month |
| Winter Period - | 7.847¢ per kWh per month |
| Transition Period - | 7.847¢ per kWh per month |

II. Facility Charge

The annual facility charge shall be 14.83 percent of the installed cost to KUB's electric system of the facilities devoted to street and park lighting service specified in this Part A. Such installed cost shall be recomputed on July 1 of each year, or more often if substantial changes in the facilities are made. Each month, one-twelfth of the then total annual facility charge shall be billed to the customer. If any part of the facilities has not been provided at the electric system's expense or if the installed cost of any portion thereof is reflected on the books of another municipality or agency or department, the annual facility charge shall be adjusted to reflect properly the remaining cost to be borne by the electric system.

Traffic signal systems and athletic field lighting installations shall be provided, owned, and maintained by and at the expense of the customer, except as KUB may agree otherwise in accordance with the provisions of the paragraph next following in this Section II. The facilities necessary to provide service to such systems and installations shall be provided by and at the expense of KUB's electric system, and the annual facility charge provided for first above in this Section II shall apply to the installed cost of such facilities.

When so authorized by policy duly adopted by the Board, traffic signal systems and athletic field lighting installations may be provided, owned, and maintained by KUB's electric system for the customer's benefit. In such cases KUB may require reimbursement from the customer for a portion of the initial installed cost of any such system or installation and shall require payment by the customer of a facility charge sufficient to cover all of KUB's costs (except reimbursed costs), including appropriate overheads, of providing, owning, and maintaining such system or installation; provided that, for athletic field lighting installations, such facility charge shall be 13.76 percent per year of such costs. Said facility charge shall be in addition to the annual facility charge on the facilities necessary to provide service to such system or installation as provided for in the preceding paragraph. Replacement of lamps and related glassware for traffic signal systems and athletic field lighting installations provided under this paragraph shall be paid for under the provisions of paragraph A in section IV.

III. Customer Charge – Traffic Signal Systems and Athletic Field Lighting Installations.
KUB shall apply a uniform monthly customer charge of $2.50 for service to each traffic signal system or athletic field lighting installation.

IV. Replacement of Lamps and Related Glassware – Street and Park Lighting
Customer shall be billed and shall pay for replacements as provided in paragraph A below, which shall be applied to all service for street and park lighting.

(a) KUB shall bill the customer monthly for such replacements during each month at KUB's cost of materials, including appropriate storeroom expense.

(b) KUB shall bill the customer monthly for one-twelfth of the amount by which KUB's cost of materials, including appropriate storeroom expenses, exceeds the products of 3 mills multiplied by the number of kilowatt-hours used for street and park lighting during the fiscal year immediately preceding the fiscal year in which such month occurs.

## Metering

For any billing month or part of such month in which the energy is not metered or for which a meter reading is found to be in error or a meter is found to have failed, the energy for billing purposes for that billing month or part of such month shall be computed from the rated capacity of the lamps (including ballast) plus 5 percent of such capacity to reflect secondary circuit losses, multiplied by the number of hours of use.

## Revenue and Cost Review

KUB's costs of providing service under Part A of this rate schedule are subject to review at any time to determine if KUB's revenues from the charges being applied are sufficient to cover its costs. (Such costs, including applicable overheads, include, but are not limited to, those incurred in the operation and maintenance of the systems provided and those resulting from depreciation and payments for taxes, tax equivalents and interest). If any such review discloses that revenues are either less or more than sufficient to cover said costs, the Board shall revise the above facility charges so that revenues will be sufficient to cover said costs.

## PART B—CHARGES FOR OUTDOOR LIGHTING FOR INDIVIDUAL CUSTOMERS

### Charges Per Fixture Per Month

| (a) Type of Fixture | Lamp Size (Watts) | Lamp Size (Lumens) | Rated kWh | Facility Charge | Total Lamp Charge |
|---|---|---|---|---|---|
| Mercury Vapor or | 175 | 7,650 | 70 | $4.64 | $10.13 |
| Incandescent* | 400 | 19,100 | 155 | 6.47 | 18.63 |
| | 1,000** | 47,500 | 378 | 10.36 | 40.02 |
| High Pressure | 100 | 8,550 | 42 | $4.64 | $ 7.94 |
| Sodium | 250 | 23,000 | 105 | 5.50 | 13.74 |
| | 400 | 45,000 | 165 | 6.47 | 19.42 |
| | 1,000** | 126,000 | 385 | 10.36 | 40.57 |
| Decorative | 100 | 8,550 | 42 | $5.28 | $8.58 |

* Mercury Vapor and Incandescent fixtures not offered for new service.
** 1,000 watt fixtures not offered for new service.

(b) Energy Charge: For each lamp size under (a) above,

| | |
|---|---|
| Summer Period - | 7.847¢ per kWh per month |
| Winter Period - | 7.847¢ per kWh per month |
| Transition Period - | 7.847¢ per kWh per month |

### Additional Facilities

The above charges in this Part B are limited to service from a photoelectrically controlled standard lighting fixture installed on a pole already in place. If the customer wishes to have the fixture installed at a location other than on a pole already in place, the customer shall pay an additional monthly charge of $3.00 per pole for additional poles required to serve the fixture from KUB's nearest available source. (This section does not apply to Decorative Lighting Fixtures).

### Adjustment

Charges under this rate schedule may be increased or decreased to reflect changes in purchased power costs as determined by any purchased power adjustment adopted by the Board.

### Lamp Replacements

Replacements of lamps and related glassware will be made in accordance with replacement policies of KUB.

### Special Outdoor Lighting Installations

When so authorized by policy duly adopted by the Board, special outdoor lighting installations (other than as provided for under Parts A and B above) may be provided, owned, and maintained by KUB's electric system. In such cases, KUB may require reimbursement from the customer for a portion of the initial installed cost of any such installation and shall require payment by the customer of monthly charges sufficient to cover all of KUB's costs (except reimbursed costs), including appropriate overheads of providing, owning, and maintaining such installations, and making lamp replacements.

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

## *GENERAL POWER RATE SCHEDULE TDGSA*

### Availability

This rate, subject to availability from TVA, shall be available for firm electric power requirements where the higher of a customer's currently effective onpeak or offpeak contract demand is greater than 1,000 kW but not more than 5,000 kW for electric service to commercial, industrial, and governmental customers, and to institutional customers, including, without limitation, churches, clubs, fraternities, orphanages, nursing homes, rooming or boarding houses, and like customers, provided that the other conditions of this section are met.

For a customer requesting that its onpeak contract demand be different from its offpeak contract demand, this rate schedule shall be available only for (1) a new contract, (2) a replacement or renewal contract following expiration of the existing contract, or (3) a replacement or renewal contract or an amended existing contract in which the customer is increasing its demand requirements above the existing contract demand level, but under this item (3) neither the new onpeak nor the new offpeak contract demand shall be lower than the customer's existing contract demand.

Prior to participation in this rate, contract amendments may be required for continued participation in certain other programs and rate overlays as determined at KUB's sole discretion.

### Character of Service

Alternating current, single or three-phase, 60 hertz. Power shall be delivered at a transmission voltage of 161 kV or, if such transmission voltage is not available, at the highest voltage available in the vicinity, unless at the customer's request a lower standard voltage is agreed upon.

## Base Charges

Customer Charge: $1,500 per delivery point per month.

Administrative Charge: $700 per delivery point per month.

Demand Charge:

Summer Period - Onpeak Demand is $10.46 per kW per month of the customer's onpeak billing demand, plus

Maximum Demand is $5.68 per kW per month of the customer's maximum billing demand plus

Excess Demand is $16.14 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Winter Period - Onpeak Demand is $9.54 per kW per month of the customer's onpeak billing demand, plus

Maximum Demand is $5.68 per kW per month of the customer's maximum billing demand plus

Excess Demand is $15.22 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Transition Period - Onpeak Demand is $9.54 per kW per month of the customer's onpeak billing demand, plus

Maximum Demand is $5.68 per kW per month of the customer's maximum billing demand plus

Excess Demand is $15.22 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Energy Charge:

Summer Period - Onpeak is 9.973¢ per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 6.771¢ per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

<u>Block 2</u> 2.709¢ per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

<u>Block 3</u> 2.419¢ per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

Winter Period - Onpeak is 8.510¢ per kWh per month for all metered onpeak kWh, plus

Offpeak

<u>Block 1</u> 7.054¢ per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

<u>Block 2</u> 2.709¢ per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

<u>Block 3</u> 2.419¢ per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

Transition Period - Onpeak is 7.168¢ per kWh per month for all metered onpeak kWh, plus

Offpeak

<u>Block 1</u> 7.168¢ per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

<u>Block 2</u> 2.709¢ per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

<u>Block 3</u> 2.419¢ per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

For the Summer Period, Winter Period, and Transition Period, Offpeak Block 1 energy rates less fuel rate of 2.025¢ per kWh per month shall be applied to the portion, if any, of the minimum offpeak energy takings amount that is greater than the metered energy.

## Facilities Rental Charge

There shall be no facilities rental charge under this rate schedule for delivery at bulk transmission voltage levels of 161kV or higher. For delivery at less than 161kV, there shall be added to the customer’s bill a facilities rental charge. This charge shall be 37 cents per kW per month except for delivery at voltages below 46 kV, in which case the charge shall be 97 cents per kW per month for the first 10,000 kW and 76 cents per kW per month for the excess over 10,000 kW. Such charge shall be applied to the higher of (1) the highest billing demand established during the latest 12-consecutive-month period or (2) the higher of the customer's currently effective onpeak or offpeak contract demand and shall be in addition to all other charges under this rate schedule, including minimum bill charges.

## Reactive Demand Charge

If the reactive demand (in kVAR) is lagging during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's highest metered demand occurs, there shall be added to the customer's bill a reactive charge of $1.46 per kVAR of the amount, if any, by which the reactive demand exceeds 33 percent of such metered demand. If the reactive demand (in kVAR) is leading during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's lowest metered demand (excluding any metered demands which are less than 25 percent of the highest metered demand) occurs, there shall be added to the customer's bill a reactive charge of $1.14 per kVAR of the amount of reactive demand. Such charges shall be in addition to all other charges under this rate schedule, including minimum bill charges.

## Adjustment

Charges under this rate schedule may be increased or decreased to reflect changes in purchased power costs as determined by any purchased power adjustment adopted by the Board.

## Determination of Seasonal Periods

Summer Period shall mean the June, July, August, and September billing months. Winter Period shall mean the December, January, February, and March billing months. Transition Period shall mean the April, May, October, and November billing months. The Seasonal Periods under this rate schedule are subject to change by KUB. In the event KUB determines that changed Seasonal Periods are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed periods, and KUB shall promptly notify customer.

## Determination of Onpeak and Offpeak Hours

Except for Saturdays and Sundays and the weekdays that are observed as Federal holidays for New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day, and provided further that onpeak hours shall not include hours that fall on November 1 of each year when November 1 falls on any day other than Monday, onpeak hours for each day shall for purposes of this rate schedule be 1 p.m. to 7 p.m. during the months of April, May, June, July, August, September and October and from 4 a.m. to 10 a.m. during the months of January, February, March, November, and December. All other hours of each day that are not otherwise defined as onpeak hours and all hours of such excepted days shall be offpeak hours. Such times shall be Central Standard Time or Central Daylight Time, whichever is then in effect. Said onpeak and offpeak hours are subject to change by KUB. In the event KUB determines that such changed onpeak and offpeak hours are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed hours, and KUB shall promptly notify customer.

## Determination of Onpeak and Offpeak Demands, Maximum Metered Demand, and Energy Amounts

The onpeak and offpeak kWh for any month shall be the energy amounts taken during the respective hours of the month designated under this rate schedule as onpeak and offpeak hours; provided, however, that notwithstanding the metered energy amount, the offpeak energy for any month shall in no case be less than the product of (1) the offpeak billing demand as calculated in the last sentence of the paragraph below and (2) 110 hours (reflecting a 15 percent load factor applied to the average number of hours in a month).

KUB shall meter the onpeak and offpeak demands in kW of all customers taking service under this rate schedule. The onpeak metered demand and offpeak metered demand for any month shall be determined separately for the respective hours of the month designated under this rate schedule as onpeak and offpeak hours and in each case shall be the highest average during any 30-consecutive-minute period beginning or ending on a clock hour of the month of the load metered in kW, and, except as provided below in this section, such amounts shall be used as the onpeak and offpeak billing demands.

The maximum billing demand for any month shall be the higher of (1) the highest onpeak billing demand in the month or (2) the highest offpeak billing demand in the month. The onpeak billing demand shall in no case be less than the sum of (1) 30 percent of the first 5,000 kW and (2) 40 percent of any kW in excess of 5,000 kW of the higher of the currently effective onpeak contract demand or the highest onpeak billing demand established during the preceding 12 months. The offpeak billing demand shall in no case be less than the sum of (1) 30 percent of the first 5,000 kW and (2) 40 percent of any kW in excess of 5,000 kW of the higher of the currently effective offpeak contract demand or the highest offpeak billing demand established during the preceding 12 months.

## Minimum Bill

The monthly bill under this rate schedule, excluding any facilities rental charges and any reactive charges, shall not be less than the sum of (1) the base customer charge and administrative charge, (2) the portion of the base demand charge, as adjusted (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applicable to onpeak billing demand applied to the customer’s onpeak billing demand, (3) the portion of the base demand charge, as adjusted, (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applicable to maximum billing demand applied to the customer’s maximum billing demand, (4) the base onpeak energy charge, as adjusted, applied to the customer’s onpeak energy takings, and (5) the base offpeak energy charge, as adjusted, applied to the higher of customer’s actual offpeak energy takings or the minimum offpeak energy takings amount provided for in the first paragraph of the section of this rate schedule entitled “Determination of Onpeak and Offpeak Demands, Maximum Metered Demand, and Energy Amounts”. Notwithstanding the foregoing, any fuel cost that is included in any purchased power adjustment adopted by the Board shall not be applied to any billed offpeak energy that exceeds the metered offpeak energy.

KUB may require minimum bills higher than those stated above.

### Contract Requirement

KUB shall require contracts for all service provided under this rate schedule. The contract shall be for an initial term of at least five years and any renewals or extensions of the initial contract shall be for a term of at least one year; after ten years of service, any such contract for the renewal or extension of service may provide for termination upon not less than four months' notice. The customer shall contract for its maximum requirements, which shall not exceed the amount of power capable of being used by customer, and KUB shall not be obligated to supply power in greater amount at any time than the customer's currently effective onpeak or offpeak contract demand. If the customer uses any power other than that supplied by KUB under this rate schedule, the contract may include other special provisions. The rate schedule in any power contract shall be subject to adjustment, modification, change, or replacement from time to time as approved by the Board.

### Single Point Delivery

The charges under this rate schedule are based upon the supply of service through a single delivery point and at a single voltage. If service is supplied to the same customer through more than one point of delivery or at different voltages, the supply of service at each delivery point and at each different voltage shall be separately metered and billed.

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

## *GENERAL POWER RATE SCHEDULE GSB*

### Availability

This rate, subject to availability from TVA, shall be available for firm electric power requirements where the higher of a customer's currently effective onpeak or offpeak contract demand is greater than 5,000 kW but not more than 15,000 kW; provided that the other conditions of this section are met.

For a customer requesting that its onpeak contract demand be different from its offpeak contract demand, this rate schedule shall be available only for (1) a new contract, (2) a replacement or renewal contract following expiration of the existing contract, or (3) a replacement or renewal contract or an amended existing contract in which the customer is increasing its demand requirements above the existing contract demand level, but under this item (3) neither the new onpeak nor the new offpeak contract demand shall be lower than the customer's existing contract demand.

Prior to participation in this rate, contract amendments may be required for continued participation in certain other programs and rate overlays as determined at KUB's sole discretion.

## Character of Service

Alternating current, single or three-phase, 60 hertz. Power shall be delivered at a transmission voltage of 161 kV or, if such transmission voltage is not available, at the highest voltage available in the vicinity, unless at the customer's request a lower standard voltage is agreed upon.

## Base Charges

Customer Charge: $1,500 per delivery point per month.
Administrative Charge: $700 per delivery point per month.
Demand Charge:

Summer Period - Onpeak Demand is $10.41 per kW per month of the customer's onpeak billing demand, plus
Maximum Demand is $5.68 per kW per month of the customer's maximum billing demand plus
Excess Demand is $16.09 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Winter Period - Onpeak Demand is $9.49 per kW per month of the customer's onpeak billing demand, plus
Maximum Demand is $5.68 per kW per month of the customer's maximum billing demand plus
Excess Demand is $15.17 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Transition Period - Onpeak Demand is $9.49 per kW per month of the customer's onpeak billing demand, plus
Maximum Demand is $5.68 per kW per month of the customer's maximum billing demand plus
Excess Demand is $15.17 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Energy Charge:

Summer Period - Onpeak is 9.650¢ per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 7.260¢ per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 2.818¢ per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 2.491¢ per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

Winter Period - Onpeak is 8.559¢ per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 7.472¢ per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 2.818¢ per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 2.491¢ per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

Transition Period - Onpeak is 7.230¢ per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 7.230¢ per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 2.818¢ per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 2.491¢ per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

For the Summer Period, Winter Period, and Transition Period, Offpeak Block 1 energy rates less fuel rate of 2.025¢ per kWh per month shall be applied to the portion, if any, of the minimum offpeak energy takings amount that is greater than the metered energy.

## Facilities Rental Charge

There shall be no facilities rental charge under this rate schedule for delivery at bulk transmission voltage levels of 161kV or higher. For delivery at less than 161kV, there shall be added to the customer's bill a facilities rental charge. This charge shall be 37 cents per kW per month except for delivery at voltages below 46 kV, in which case the charge shall be 97 cents per kW per month for the first 10,000 kW and 76 cents per kW per month for the excess over 10,000 kW. Such charge shall be applied to the higher of (1) the highest billing demand established during the latest 12-consecutive-month period or (2) the higher of the customer's currently effective onpeak or offpeak contract demand and shall be in addition to all other charges under this rate schedule, including minimum bill charges.

## Reactive Demand Charge

If the reactive demand (in kVAR) is lagging during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's highest metered demand occurs, there shall be added to the customer's bill a reactive charge of $1.46 per kVAR of the amount, if any, by which the reactive demand exceeds 33 percent of such metered demand. If the reactive demand (in kVAR) is leading during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's lowest metered demand (excluding any metered demands which are less than 25 percent of the highest metered demand) occurs, there shall be added to the customer's bill a reactive charge of $1.14 per kVAR of the amount of reactive demand. Such charges shall be in addition to all other charges under this rate schedule, including minimum bill charges.

## Adjustment

Charges under this rate schedule may be increased or decreased to reflect changes in purchased power costs as determined by any purchased power adjustment adopted by the Board.

## Determination of Seasonal Periods

Summer Period shall mean the June, July, August, and September billing months. Winter Period shall mean the December, January, February, and March billing months. Transition Period shall mean the April, May, October, and November billing months. The Seasonal Periods under this rate schedule are subject to change by KUB. In the event KUB determines that changed Seasonal Periods are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed periods, and KUB shall promptly notify customer.

## Determination of Onpeak and Offpeak Hours

Except for Saturdays and Sundays and the weekdays that are observed as Federal holidays for New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day, and provided further that onpeak hours shall not include hours that fall on November 1 of each year when November 1 falls on any day other than Monday, onpeak hours for each day shall for purposes of this rate schedule be 1 p.m. to 7 p.m. during the months of April, May, June, July, August, September and October and from 4 a.m. to 10 a.m. during the months of January, February, March, November, and December. All other hours of each day that are not otherwise defined as onpeak hours and all hours of such excepted days shall be offpeak hours. Such times shall be Central Standard Time or Central Daylight Time, whichever is then in effect. Said onpeak and offpeak hours are subject to change by KUB. In the event KUB determines that such changed onpeak and offpeak hours are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed hours, and KUB shall promptly notify customer.

## Determination of Onpeak and Offpeak Demands, Maximum Metered Demand, and Energy Amounts

The onpeak and offpeak kWh for any month shall be the energy amounts taken during the respective hours of the month designated under this rate schedule as onpeak and offpeak hours; provided, however, that notwithstanding the metered energy amount, the offpeak energy for any month shall in no case be less than the product of (1) the offpeak billing demand as calculated in the last sentence of the paragraph below and (2) 110 hours (reflecting a 15 percent load factor applied to the average number of hours in a month).

KUB shall meter the onpeak and offpeak demands in kW of all customers taking service under this rate schedule. The onpeak metered demand and offpeak metered demand for any month shall be determined separately for the respective hours of the month designated under this rate schedule as onpeak and offpeak hours and in each case shall be the highest average during any 30-consecutive-minute period beginning or ending on a clock hour of the month of the load metered in kW, and, except as provided below in this section, such amounts shall be used as the onpeak and offpeak billing demands.

The maximum billing demand for any month shall be the higher of (1) the highest onpeak billing demand in the month or (2) the highest offpeak billing demand in the month. The onpeak billing demand shall in no case be less than the sum of (1) 30 percent of the first 5,000 kW and (2) 40 percent of any kW in excess of 5,000 kW of the higher of the currently effective onpeak contract demand or the highest onpeak billing demand established during the preceding 12 months. The offpeak billing demand shall in no case be less than the sum of (1) 30 percent of the first 5,000 kW and (2) 40 percent of any kW in excess of 5,000 kW of the higher of the currently effective offpeak contract demand or the highest offpeak billing demand established during the preceding 12 months.

## Minimum Bill

The monthly bill under this rate schedule, excluding any facilities rental charges and any reactive charges, shall not be less than the sum of (1) the base customer charge and administrative charge, (2) the portion of the base demand charge, as adjusted (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applicable to onpeak billing demand applied to the customer's onpeak billing demand, (3) the portion of the base demand charge, as adjusted, (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applicable to maximum billing demand applied to the customer’s maximum billing demand, (4) the base onpeak energy charge, as adjusted, applied to the customer’s onpeak energy takings, and (5) the base offpeak energy charge, as adjusted, applied to the higher of customer’s actual offpeak energy takings or the minimum offpeak energy takings amount provided for in the first paragraph of the section of this rate schedule entitled “Determination of Onpeak and Offpeak Demands, Maximum Metered Demand, and Energy Amounts”. Notwithstanding the foregoing, any fuel cost that is included in any purchased power adjustment adopted by the Board shall not be applied to any billed offpeak energy that exceeds the metered offpeak energy.

KUB may require minimum bills higher than those stated above.

### Contract Requirement

KUB shall require contracts for all service provided under this rate schedule. The contract shall be for an initial term of at least five years and any renewals or extensions of the initial contract shall be for a term of at least one year; after ten years of service, any such contract for the renewal or extension of service may provide for termination upon not less than four months’ notice. The customer shall contract for its maximum requirements, which shall not exceed the amount of power capable of being used by customer, and KUB shall not be obligated to supply power in greater amount at any time than the customer’s currently effective onpeak or offpeak contract demand. If the customer uses any power other than that supplied by KUB under this rate schedule, the contract may include other special provisions. The rate schedule in any power contract shall be subject to adjustment, modification, change, or replacement from time to time as approved by the Board.

### Single Point Delivery

The charges under this rate schedule are based upon the supply of service through a single delivery point and at a single voltage. If service is supplied to the same customer through more than one point of delivery or at different voltages, the supply of service at each delivery point and at each different voltage shall be separately metered and billed.

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

## *GENERAL POWER RATE SCHEDULE GSC*

### Availability

This rate, subject to availability from TVA, shall be available for firm electric power requirements where the higher of a customer’s currently effective onpeak or offpeak contract demand is greater than 15,000 kW but not more than 25,000 kW; provided that the other conditions of this section are met.

For a customer requesting that its onpeak contract demand be different from its offpeak contract demand, this rate schedule shall be available only for (1) a new contract, (2) a replacement or renewal contract following expiration of the existing contract, or (3) a replacement or renewal contract or an amended existing contract in which the customer is increasing its demand requirements above the existing contract demand level, but under this item (3) neither the new onpeak nor the new offpeak contract demand shall be lower than the customer's existing contract demand.

Prior to participation in this rate, contract amendments may be required for continued participation in certain other programs and rate overlays as determined at KUB's sole discretion.

## Character of Service

Alternating current, single or three-phase, 60 hertz. Power shall be delivered at a transmission voltage of 161 kV or, if such transmission voltage is not available, at the highest voltage available in the vicinity, unless at the customer's request a lower standard voltage is agreed upon.

## Base Charges

Customer Charge: $1,500 per delivery point per month.
Administrative Charge: $700 per delivery point per month.
Demand Charge:

Summer Period - Onpeak Demand is $10.41 per kW per month of the customer's onpeak billing demand, plus

Maximum Demand is $5.56 per kW per month of the customer's maximum billing demand plus

Excess Demand is $15.97 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Winter Period - Onpeak Demand is $9.49 per kW per month of the customer's onpeak billing demand, plus

Maximum Demand is $5.56 per kW per month of the customer's maximum billing demand plus

Excess Demand is $15.05 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Transition Period - Onpeak Demand is $9.49 per kW per month of the customer's onpeak billing demand, plus

Maximum Demand is $5.56 per kW per month of the customer's maximum billing demand plus

Excess Demand is $15.05 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Energy Charge:

Summer Period - Onpeak is 9.648¢ per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 7.258¢ per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 2.816¢ per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 2.489¢ per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

Winter Period - Onpeak is 8.557¢ per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 7.470¢ per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 2.816¢ per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 2.489¢ per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

Transition Period - Onpeak is 7.228¢ per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 7.228¢ per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 2.816¢ per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 2.489¢ per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

For the Summer Period, Winter Period, and Transition Period, Offpeak Block 1 energy rates less fuel rate of 2.025¢ per kWh per month shall be applied to the portion, if any, of the minimum offpeak energy takings amount that is greater than the metered energy.

## Facilities Rental Charge

There shall be no facilities rental charge under this rate schedule for delivery at bulk transmission voltage levels of 161kV or higher. For delivery at less than 161kV, there shall be added to the customer's bill a facilities rental charge. This charge shall be 37 cents per kW per month except for delivery at voltages below 46 kV, in which case the charge shall be 97 cents per kW per month for the first 10,000 kW and 76 cents per kW per month for the excess over 10,000 kW. Such charge shall be applied to the higher of (1) the highest billing demand established during the latest 12-consecutive-month period or (2) the higher of the customer's currently effective onpeak or offpeak contract demand and shall be in addition to all other charges under this rate schedule, including minimum bill charges.

## Reactive Demand Charge

If the reactive demand (in kVAR) is lagging during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's highest metered demand occurs, there shall be added to the customer's bill a reactive charge of $1.46 per kVAR of the amount, if any, by which the reactive demand exceeds 33 percent of such metered demand. If the reactive demand (in kVAR) is leading during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's lowest metered demand (excluding any metered demands which are less than 25 percent of the highest metered demand) occurs, there shall be added to the customer's bill a reactive charge of $1.14 per kVAR of the amount of reactive demand. Such charges shall be in addition to all other charges under this rate schedule, including minimum bill charges.

## Adjustment

Charges under this rate schedule may be increased or decreased to reflect changes in purchased power costs as determined by any purchased power adjustment adopted by the Board.

## Determination of Seasonal Periods

Summer Period shall mean the June, July, August, and September billing months. Winter Period shall mean the December, January, February, and March billing months. Transition Period shall mean the April, May, October, and November billing months. The Seasonal Periods under this rate schedule are subject to change by KUB. In the event KUB determines that changed Seasonal Periods are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed periods, and KUB shall promptly notify customer.

### Determination of Onpeak and Offpeak Hours

Except for Saturdays and Sundays and the weekdays that are observed as Federal holidays for New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day, and provided further that onpeak hours shall not include hours that fall on November 1 of each year when November 1 falls on any day other than Monday, onpeak hours for each day shall for purposes of this rate schedule be 1 p.m. to 7 p.m. during the months of April, May, June, July, August, September and October and from 4 a.m. to 10 a.m. during the months of January, February, March, November, and December. All other hours of each day that are not otherwise defined as onpeak hours and all hours of such excepted days shall be offpeak hours. Such times shall be Central Standard Time or Central Daylight Time, whichever is then in effect. Said onpeak and offpeak hours are subject to change by KUB. In the event KUB determines that such changed onpeak and offpeak hours are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed hours, and KUB shall promptly notify customer.

### Determination of Onpeak and Offpeak Demands, Maximum Metered Demand, and Energy Amounts

The onpeak and offpeak kWh for any month shall be the energy amounts taken during the respective hours of the month designated under this rate schedule as onpeak and offpeak hours; provided, however, that notwithstanding the metered energy amount, the offpeak energy for any month shall in no case be less than the product of (1) the offpeak billing demand as calculated in the last sentence of the paragraph below and (2) 110 hours (reflecting a 15 percent load factor applied to the average number of hours in a month).

KUB shall meter the onpeak and offpeak demands in kW of all customers taking service under this rate schedule. The onpeak metered demand and offpeak metered demand for any month shall be determined separately for the respective hours of the month designated under this rate schedule as onpeak and offpeak hours and in each case shall be the highest average during any 30-consecutive-minute period beginning or ending on a clock hour of the month of the load metered in kW, and, except as provided below in this section, such amounts shall be used as the onpeak and offpeak billing demands.

The maximum billing demand for any month shall be the higher of (1) the highest onpeak billing demand in the month or (2) the highest offpeak billing demand in the month. The onpeak billing demand shall in no case be less than the sum of (1) 30 percent of the first 5,000 kW, (2) 40 percent of the next 20,000 kW, and (3) 50 percent of any kW in excess of 25,000 kW of the higher of the currently effective onpeak contract demand or the highest onpeak billing demand established during the preceding 12 months. The offpeak billing demand shall in no case be less than the sum of (1) 30 percent of the first 5,000 kW, (2) 40 percent of the next 20,000 kW, and (3) 50 percent of any kW in excess of 25,000 kW of the higher of the currently effective offpeak contract demand or the highest offpeak billing demand established during the preceding 12 months.

## Minimum Bill

The monthly bill under this rate schedule, excluding any facilities rental charges and any reactive charges, shall not be less than the sum of (1) the base customer charge and administrative charge, (2) the portion of the base demand charge, as adjusted (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applicable to onpeak billing demand applied to the customer's onpeak billing demand, (3) the portion of the base demand charge, as adjusted, (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applicable to maximum billing demand applied to the customer's maximum billing demand, (4) the base onpeak energy charge, as adjusted, applied to the customer's onpeak energy takings, and (5) the base offpeak energy charge, as adjusted, applied to the higher of customer's actual offpeak energy takings or the minimum offpeak energy takings amount provided for in the first paragraph of the section of this rate schedule entitled "Determination of Onpeak and Offpeak Demands, Maximum Metered Demand, and Energy Amounts".  Notwithstanding the foregoing, any fuel cost that is included in any purchased power adjustment adopted by the Board shall not be applied to any billed offpeak energy that exceeds the metered offpeak energy.

KUB may require minimum bills higher than those stated above.

## Contract Requirement

KUB shall require contracts for all service provided under this rate schedule. The contract shall be for an initial term of at least five years and any renewals or extensions of the initial contract shall be for a term of at least one year; after ten years of service, any such contract for the renewal or extension of service may provide for termination upon not less than four months' notice. The customer shall contract for its maximum requirements, which shall not exceed the amount of power capable of being used by customer, and KUB shall not be obligated to supply power in greater amount at any time than the customer's currently effective onpeak or offpeak contract demand. If the customer uses any power other than that supplied by KUB under this rate schedule, the contract may include other special provisions. The rate schedule in any power contract shall be subject to adjustment, modification, change, or replacement from time to time as approved by the Board.

## Single Point Delivery

The charges under this rate schedule are based upon the supply of service through a single delivery point and at a single voltage. If service is supplied to the same customer through more than one point of delivery or at different voltages, the supply of service at each delivery point and at each different voltage shall be separately metered and billed.

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### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

## *GENERAL POWER RATE SCHEDULE GSD*

### Availability

This rate, subject to availability from TVA, shall be available for firm electric power requirements where the higher of a customer's currently effective onpeak or offpeak contract demand is greater than 25,000 kW; provided that the other conditions of this section are met.

For a customer requesting that its onpeak contract demand be different from its offpeak contract demand, this rate schedule shall be available only for (1) a new contract, (2) a replacement or renewal contract following expiration of the existing contract, or (3) a replacement or renewal contract or an amended existing contract in which the customer is increasing its demand requirements above the existing contract demand level, but under this item (3) neither the new onpeak nor the new offpeak contract demand shall be lower than the customer's existing contract demand.

Prior to participation in this rate, contract amendments may be required for continued participation in certain other programs and rate overlays as determined at KUB's sole discretion.

### Character of Service

Alternating current, single or three-phase, 60 hertz. Power shall be delivered at a transmission voltage of 161 kV or, if such transmission voltage is not available, at the highest voltage available in the vicinity, unless at the customer's request a lower standard voltage is agreed upon.

### Base Charges

Customer Charge: $1,500 per delivery point per month.
Administrative Charge: $700 per delivery point per month.
Demand Charge:
  Summer Period - Onpeak Demand is $10.41 per kW per month of the customer's onpeak billing demand, plus
  Maximum Demand is $5.43 per kW per month of the customer's maximum billing demand plus
  Excess Demand is $15.84 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Winter Period - Onpeak Demand is $9.49 per kW per month of the customer's onpeak billing demand, plus

Maximum Demand is $5.43 per kW per month of the customer's maximum billing demand plus

Excess Demand is $14.92 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Transition Period - Onpeak Demand is $9.49 per kW per month of the customer's onpeak billing demand, plus

Maximum Demand is $5.43 per kW per month of the customer's maximum billing demand plus

Excess Demand is $14.92 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Energy Charge:

Summer Period - Onpeak is 9.665¢ per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 7.275¢ per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 2.723¢ per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 2.506¢ per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

Winter Period - Onpeak is 8.574¢ per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 7.487¢ per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 2.723¢ per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 2.506¢ per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

Transition Period - Onpeak is 7.245¢ per kWh per month for all metered onpeak kWh, plus

Offpeak

<u>Block 1</u> 7.245¢ per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

<u>Block 2</u> 2.723¢ per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

<u>Block 3</u> 2.506¢ per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

For the Summer Period, Winter Period, and Transition Period, Offpeak Block 1 energy rates less fuel rate of 2.025¢ per kWh per month shall be applied to the portion, if any, of the minimum offpeak energy takings amount that is greater than the metered energy.

### Facilities Rental Charge

There shall be no facilities rental charge under this rate schedule for delivery at bulk transmission voltage levels of 161kV or higher. For delivery at less than 161kV, there shall be added to the customer's bill a facilities rental charge. This charge shall be 37 cents per kW per month except for delivery at voltages below 46 kV, in which case the charge shall be 97 cents per kW per month for the first 10,000 kW and 76 cents per kW per month for the excess over 10,000 kW. Such charge shall be applied to the higher of (1) the highest billing demand established during the latest 12-consecutive-month period or (2) the higher of the customer's currently effective onpeak or offpeak contract demand and shall be in addition to all other charges under this rate schedule, including minimum bill charges.

### Reactive Demand Charge

If the reactive demand (in kVAR) is lagging during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's highest metered demand occurs, there shall be added to the customer's bill a reactive charge of $1.46 per kVAR of the amount, if any, by which the reactive demand exceeds 33 percent of such metered demand. If the reactive demand (in kVAR) is leading during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's lowest metered demand (excluding any metered demands which are less than 25 percent of the highest metered demand) occurs, there shall be added to the customer's bill a reactive charge of $1.14 per kVAR of the amount of reactive demand. Such charges shall be in addition to all other charges under this rate schedule, including minimum bill charges.

## Adjustment

Charges under this rate schedule may be increased or decreased to reflect changes in purchased power costs as determined by any purchased power adjustment adopted by the Board.

## Determination of Seasonal Periods

Summer Period shall mean the June, July, August, and September billing months. Winter Period shall mean the December, January, February, and March billing months. Transition Period shall mean the April, May, October, and November billing months. The Seasonal Periods under this rate schedule are subject to change by KUB. In the event KUB determines that changed Seasonal Periods are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed periods, and KUB shall promptly notify customer.

## Determination of Onpeak and Offpeak Hours

Except for Saturdays and Sundays and the weekdays that are observed as Federal holidays for New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day, and provided further that onpeak hours shall not include hours that fall on November 1 of each year when November 1 falls on any day other than Monday, onpeak hours for each day shall for purposes of this rate schedule be 1 p.m. to 7 p.m. during the months of April, May, June, July, August, September and October and from 4 a.m. to 10 a.m. during the months of January, February, March, November, and December. All other hours of each day that are not otherwise defined as onpeak hours and all hours of such excepted days shall be offpeak hours. Such times shall be Central Standard Time or Central Daylight Time, whichever is then in effect. Said onpeak and offpeak hours are subject to change by KUB. In the event KUB determines that such changed onpeak and offpeak hours are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed hours, and KUB shall promptly notify customer.

## Determination of Onpeak and Offpeak Demands, Maximum Metered Demand, and Energy Amounts

The onpeak and offpeak kWh for any month shall be the energy amounts taken during the respective hours of the month designated under this rate schedule as onpeak and offpeak hours; provided, however, that notwithstanding the metered energy amount, the offpeak energy for any month shall in no case be less than the product of (1) the offpeak billing demand as calculated in the last sentence of the paragraph below and (2) 110 hours (reflecting a 15 percent load factor applied to the average number of hours in a month).

KUB shall meter the onpeak and offpeak demands in kW of all customers taking service under this rate schedule. The onpeak metered demand and offpeak metered demand for any month shall be determined separately for the respective hours of the month designated under this rate schedule as onpeak and offpeak hours and in each case shall be the highest average during any 30-consecutive-minute period beginning or ending on a clock hour of the month of the load metered in kW, and, except as provided below in this section, such amounts shall be used as the onpeak and offpeak billing demands.

The maximum billing demand for any month shall be the higher of (1) the highest onpeak billing demand in the month or (2) the highest offpeak billing demand in the month. The onpeak billing demand shall in no case be less than the sum of (1) 30 percent of the first 5,000 kW, (2) 40 percent of the next 20,000 kW; (3) 50 percent of the next 25,000 kW, (4) 60 percent of the next 50,000 kW, (5) 70 percent of the next 100,000 kW, (6) 80 percent of the next 150,000 kW, and (7) 85 percent of all kW in excess of 350,000 kW of the higher of the currently effective onpeak contract demand or the highest onpeak billing demand established during the preceding 12 months. The offpeak billing demand shall in no case be less than the sum of (1) 30 percent of the first 5,000 kW, (2) 40 percent of the next 20,000 kW, (3) 50 percent of the next 25,000 kW, (4) 60 percent of the next 50,000 kW, (5) 70 percent of the next 100,000 kW, (6) 80 percent of the next 150,000 kW, and (7) 85 percent of all kW in excess of 350,000 kW of the higher of the currently effective offpeak contract demand or the highest offpeak billing demand established during the preceding 12 months.

## Minimum Bill

The monthly bill under this rate schedule, excluding any facilities rental charges and any reactive charges, shall not be less than the sum of (1) the base customer charge and administrative charge, (2) the portion of the base demand charge, as adjusted (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applicable to onpeak billing demand applied to the customer's onpeak billing demand, (3) the portion of the base demand charge, as adjusted, (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applicable to maximum billing demand applied to the customer's maximum billing demand, (4) the base onpeak energy charge, as adjusted, applied to the customer's onpeak energy takings, and (5) the base offpeak energy charge, as adjusted, applied to the higher of customer's actual offpeak energy takings or the minimum offpeak energy takings amount provided for in the first paragraph of the section of this rate schedule entitled "Determination of Onpeak and Offpeak Demands, Maximum Metered Demand, and Energy Amounts". Notwithstanding the foregoing, any fuel cost that is included in any purchased power adjustment adopted by the Board shall not be applied to any billed offpeak energy that exceeds the metered offpeak energy.

KUB may require minimum bills higher than those stated above.

## Contract Requirement

KUB shall require contracts for all service provided under this rate schedule. The contract shall be for an initial term of at least five years and any renewals or extensions of the initial contract shall be for a term of at least one year; after ten years of service, any such contract for the renewal or extension of service may provide for termination upon not less than four months' notice. The customer shall contract for its maximum requirements, which shall not exceed the amount of power capable of being used by customer, and KUB shall not be obligated to supply power in greater amount at any time than the customer's currently effective onpeak or offpeak contract demand. If the customer uses any power other than that supplied by KUB under this rate schedule, the contract may include other special provisions. The rate schedule in any power contract shall be subject to adjustment, modification, change, or replacement from time to time as approved by the Board.

### Single Point Delivery

The charges under this rate schedule are based upon the supply of service through a single delivery point and at a single voltage. If service is supplied to the same customer through more than one point of delivery or at different voltages, the supply of service at each delivery point and at each different voltage shall be separately metered and billed.

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

## *SEASONAL DEMAND AND ENERGY GENERAL POWER RATE SCHEDULE SGSB*

### Availability

This rate, subject to availability from TVA, shall apply to the firm electric power requirements where the customer's currently effective contract demand is greater than 5,000 kW but not more than 15,000 kW.

Prior to participation in this rate, contract amendments may be required for continued participation in certain other programs and rate overlays as determined at KUB's sole discretion.

### Character of Service

Alternating current, single- or three-phase, 60 hertz. Power shall be delivered at a transmission voltage of 161 kV or, if such transmission voltage is not available, at the highest voltage available in the vicinity, unless at the customer's request a lower standard voltage is agreed upon.

### Base Charges

| | |
|---|---|
| Customer Charge: | $1,500 per delivery point per month |
| Administrative Charge: | $700 per delivery point per month |
| Demand Charge: | |
| Summer Period - | $20.66 per kW per month of the customer's billing demand, plus<br>$20.66 per kW per month of the amount, if any, by which the customer's billing demand exceeds its contract demand |

| | |
|---|---|
| Winter Period - | $17.49 per kW per month of the customer’s billing demand, plus<br>$17.49 per kW per month of the amount, if any, by which the customer's billing demand exceeds its contract demand |
| Transition Period - | $14.34 per kW per month of the customer’s billing demand, plus<br>$14.34 per kW per month of the amount, if any, by which the customer's billing demand exceeds its contract demand |

Energy Charge:

| | |
|---|---|
| Summer Period - | 5.316¢ per kWh per month |
| Winter Period - | 4.861¢ per kWh per month |
| Transition Period - | 4.759¢ per kWh per month |

### Adjustment

Charges under this rate schedule may be increased or decreased to reflect changes in purchased power costs as determined by any purchased power adjustment adopted by the Board.

### Facilities Rental Charge

There shall be no facilities rental charge under this rate schedule for delivery at bulk transmission voltage levels of 161 kV or higher. For delivery at less than 161 kV, there shall be added to the customer's bill a facilities rental charge. This charge shall be 37 cents per kW per month except for delivery at voltages below 46 kV, in which case the charge shall be 97 cents per kW per month for the first 10,000 kW and 76 cents per kW per month for the excess over 10,000 kW. Such charge shall be applied to the higher of (1) the highest billing demand established during the latest 12-consecutive-month period or (2) the customer's currently effective contract demand and shall be in addition to all other charges under this rate schedule, including minimum bill charges.

### Reactive Demand Charges

If the reactive demand (in kVAR) is lagging during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer’s highest metered demand occurs, there shall be added to the customer’s bill a reactive charge of $1.46 per kVAR of the amount, if any, by which the reactive demand exceeds 33 percent of such metered demand. If the reactive demand (in kVAR) is leading during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer’s lowest metered demand (excluding any metered demands which are less than 25 percent of the highest metered demand) occurs, there shall be added to the customer’s bill a reactive charge of $1.14 per kVAR of the amount of reactive demand. Such charges shall be in addition to all other charges under this rate schedule, including minimum bill charges.

## Determination of Seasonal Periods

Summer Period shall mean the June, July, August, and September billing months. Winter Period shall mean the December, January, February, and March billing months. Transition Period shall mean the April, May, October, and November billing months. The Seasonal Periods under this rate schedule are subject to change by KUB. In the event KUB determines that changed Seasonal Periods are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed periods, and KUB shall promptly notify customer.

## Determination of Demand

KUB shall meter the demands in kW of all customers served under this rate schedule. The metered demand for any month shall be the highest average during any 30-consecutive-minute period beginning or ending on a clock hour of the month of the load metered in kW, and such amount shall be used as the billing demand, except that the billing demand for any month shall in no case be less than 110% of the sum of (1) 30 percent of the first 5,000 kW and (2) 40 percent of any kW in excess of 5,000 kW of the higher of the currently effective contract demand or the highest billing demand established during the preceding 12 months.

## Minimum Bill

The monthly bill under this rate schedule, excluding any facilities rental charges and any reactive charges, shall not be less than the sum of (1) the base customer charge and administrative charge, (2) the base demand charge, as adjusted (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applied to the customer's billing demand, and (3) the base energy charge, as adjusted, applied to the customer's energy takings.

KUB may require minimum bills higher than those stated above.

## Contract Requirement

KUB shall require contracts for all service provided under this rate schedule. The contract shall be for an initial term of at least five years and any renewals or extensions of the initial contract shall be for a term of at least one year; after ten years of service, any such contract for the renewal or extension of service may provide for termination upon not less than four months' notice. The customer shall contract for its maximum requirements, which shall not exceed the amount of power capable of being used by customer, and KUB shall not be obligated to supply power in greater amount at any time than the customer's currently effective contract demand. If the customer uses any power other than that supplied by KUB under this rate schedule, the contract may include other special provisions. The rate schedule in any power contract shall be subject to adjustment, modification, change, or replacement from time to time as approved by the Board.

After having received service for at least one year under this rate schedule, the customer, subject to appropriate amendments in its power contract with KUB, may receive service under the General Power Rate - Schedule GSB. In such case the term of the power contract shall remain the same and the onpeak contract demand for service under the General Power Rate – Schedule GSB shall not be less than the contract demand in effect when service was taken under this rate schedule.

### Single-Point Delivery

The charges under this rate schedule are based upon the supply of service through a single delivery point, and at a single voltage. If service is supplied to the same customer through more than one point of delivery or at different voltages, the supply of service at each delivery point and at each different voltage shall be separately metered and billed.

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

## *SEASONAL DEMAND AND ENERGY GENERAL POWER RATE SCHEDULE SGSC*

### Availability

This rate, subject to availability from TVA, shall apply to the firm electric power requirements where the customer's currently effective contract demand is greater than 15,000 kW but not more than 25,000 kW.

Prior to participation in this rate, contract amendments may be required for continued participation in certain other programs and rate overlays as determined at KUB’s sole discretion.

### Character of Service

Alternating current, single- or three-phase, 60 hertz. Power shall be delivered at a transmission voltage of 161 kV or, if such transmission voltage is not available, at the highest voltage available in the vicinity, unless at the customer's request a lower standard voltage is agreed upon.

### Base Charges

Customer Charge: $1,500 per delivery point per month
Administrative Charge: $700 per delivery point per month
Demand Charge:
Summer Period - $20.54 per kW per month of the customer’s billing demand, plus
$20.54 per kW per month of the amount, if any, by which the customer's billing demand exceeds its contract demand

Winter Period - $17.37 per kW per month of the customer’s billing demand, plus
$17.37 per kW per month of the amount, if any, by which the customer's billing demand exceeds its contract demand

Transition Period - $14.22 per kW per month of the customer’s billing demand, plus
$14.22 per kW per month of the amount, if any, by which the customer's billing demand exceeds its contract demand

Energy Charge:
Summer Period - 5.254¢ per kWh per month
Winter Period - 4.790¢ per kWh per month
Transition Period - 4.690¢ per kWh per month

## Adjustment

Charges under this rate schedule may be increased or decreased to reflect changes in purchased power costs as determined by any purchased power adjustment adopted by the Board.

## Facilities Rental Charge

There shall be no facilities rental charge under this rate schedule for delivery at bulk transmission voltage levels of 161 kV or higher. For delivery at less than 161 kV, there shall be added to the customer's bill a facilities rental charge. This charge shall be 37 cents per kW per month except for delivery at voltages below 46 kV, in which case the charge shall be 97 cents per kW per month for the first 10,000 kW and 76 cents per kW per month for the excess over 10,000 kW. Such charge shall be applied to the higher of (1) the highest billing demand established during the latest 12-consecutive-month period or (2) the customer's currently effective contract demand and shall be in addition to all other charges under this rate schedule, including minimum bill charges.

## Reactive Demand Charges

If the reactive demand (in kVAR) is lagging during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer’s highest metered demand occurs, there shall be added to the customer’s bill a reactive charge of $1.46 per kVAR of the amount, if any, by which the reactive demand exceeds 33 percent of such metered demand. If the reactive demand (in kVAR) is leading during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer’s lowest metered demand (excluding any metered demands which are less than 25 percent of the highest metered demand) occurs, there shall be added to the customer’s bill a reactive charge of $1.14 per kVAR of the amount of reactive demand. Such charges shall be in addition to all other charges under this rate schedule, including minimum bill charges.

## Determination of Seasonal Periods

Summer Period shall mean the June, July, August, and September billing months. Winter Period shall mean the December, January, February, and March billing months. Transition Period shall mean the April, May, October, and November billing months. The Seasonal Periods under this rate schedule are subject to change by KUB. In the event KUB determines that changed Seasonal Periods are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed periods, and KUB shall promptly notify customer.

## Determination of Demand

KUB shall meter the demands in kW of all customers served under this rate schedule. The metered demand for any month shall be the highest average during any 30-consecutive-minute period beginning or ending on a clock hour of the month of the load metered in kW, and such amount shall be used as the billing demand, except that the billing demand for any month shall in no case be less than 110% of the sum of (1) 30 percent of the first 5,000 kW, (2) 40 percent of the next 20,000 kW, and (3) 50 percent of any kW in excess of 25,000 kW of the higher of the currently effective contract demand or the highest billing demand established during the preceding 12 months.

## Minimum Bill

The monthly bill under this rate schedule, excluding any facilities rental charges and any reactive charges, shall not be less than the sum of (1) the base customer charge and administrative charge, (2) the base demand charge, as adjusted (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applied to the customer's billing demand, and (3) the base energy charge, as adjusted, applied to the customer's energy takings.

KUB may require minimum bills higher than those stated above.

## Contract Requirement

KUB shall require contracts for all service provided under this rate schedule. The contract shall be for an initial term of at least five years and any renewals or extensions of the initial contract shall be for a term of at least one year; after ten years of service, any such contract for the renewal or extension of service may provide for termination upon not less than four months' notice. The customer shall contract for its maximum requirements, which shall not exceed the amount of power capable of being used by customer, and KUB shall not be obligated to supply power in greater amount at any time than the customer's currently effective contract demand. If the customer uses any power other than that supplied by KUB under this rate schedule, the contract may include other special provisions. The rate schedule in any power contract shall be subject to adjustment, modification, change, or replacement from time to time as approved by the Board.

After having received service for at least one year under this rate schedule, the customer, subject to appropriate amendments in its power contract with KUB, may receive service under the General Power Rate - Schedule GSC. In such case the term of the power contract shall remain the same and the onpeak contract demand for service under the General Power Rate – Schedule GSC shall not be less than the contract demand in effect when service was taken under this rate schedule.

### Single-Point Delivery

The charges under this rate schedule are based upon the supply of service through a single delivery point, and at a single voltage. If service is supplied to the same customer through more than one point of delivery or at different voltages, the supply of service at each delivery point and at each different voltage shall be separately metered and billed.

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

## *SEASONAL DEMAND AND ENERGY GENERAL POWER RATE SCHEDULE SGSD*

### Availability

This rate, subject to availability from TVA, shall apply to the firm electric power requirements where the customer's currently effective contract demand is greater than 25,000 kW.

Prior to participation in this rate, contract amendments may be required for continued participation in certain other programs and rate overlays as determined at KUB’s sole discretion.

### Character of Service

Alternating current, single- or three-phase, 60 hertz. Power shall be delivered at a transmission voltage of 161 kV or, if such transmission voltage is not available, at the highest voltage available in the vicinity, unless at the customer's request a lower standard voltage is agreed upon.

### Base Charges

| | |
|---|---|
| Customer Charge: | $1,500 per delivery point per month |
| Administrative Charge: | $700 per delivery point per month |
| Demand Charge: | |
| Summer Period - | $20.41 per kW per month of the customer’s billing demand, plus |

| | |
|---|---|
| | $20.41 per kW per month of the amount, if any, by which the customer's billing demand exceeds its contract demand |
| Winter Period - | $17.24 per kW per month of the customer’s billing demand, plus<br>$17.24 per kW per month of the amount, if any, by which the customer's billing demand exceeds its contract demand |
| Transition Period - | $14.09 per kW per month of the customer’s billing demand, plus<br>$14.09 per kW per month of the amount, if any, by which the customer's billing demand exceeds its contract demand |

Energy Charge:

| | |
|---|---|
| Summer Period - | 5.034¢ per kWh per month |
| Winter Period - | 4.630¢ per kWh per month |
| Transition Period - | 4.540¢ per kWh per month |

### Adjustment

Charges under this rate schedule may be increased or decreased to reflect changes in purchased power costs as determined by any purchased power adjustment adopted by the Board.

### Facilities Rental Charge

There shall be no facilities rental charge under this rate schedule for delivery at bulk transmission voltage levels of 161 kV or higher. For delivery at less than 161 kV, there shall be added to the customer's bill a facilities rental charge. This charge shall be 37 cents per kW per month except for delivery at voltages below 46 kV, in which case the charge shall be 97 cents per kW per month for the first 10,000 kW and 76 cents per kW per month for the excess over 10,000 kW. Such charge shall be applied to the higher of (1) the highest billing demand established during the latest 12-consecutive-month period or (2) the customer's currently effective contract demand and shall be in addition to all other charges under this rate schedule, including minimum bill charges.

### Reactive Demand Charges

If the reactive demand (in kVAR) is lagging during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer’s highest metered demand occurs, there shall be added to the customer’s bill a reactive charge of $1.46 per kVAR of the amount, if any, by which the reactive demand exceeds 33 percent of such metered demand. If the reactive demand (in kVAR) is leading during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer’s lowest metered demand (excluding any metered demands which are less than 25 percent of the highest metered demand) occurs, there shall be added to the customer’s bill a reactive charge of $1.14 per kVAR of the amount of reactive demand. Such charges shall be in addition to all other charges under this rate schedule, including minimum bill charges.

### Determination of Seasonal Periods

Summer Period shall mean the June, July, August, and September billing months. Winter Period shall mean the December, January, February, and March billing months. Transition Period shall mean the April, May, October, and November billing months. The Seasonal Periods under this rate schedule are subject to change by KUB. In the event KUB determines that changed Seasonal Periods are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed periods, and KUB shall promptly notify customer.

### Determination of Demand

KUB shall meter the demands in kW of all customers served under this rate schedule. The metered demand for any month shall be the highest average during any 30-consecutive-minute period beginning or ending on a clock hour of the month of the load metered in kW, and such amount shall be used as the billing demand, except that the billing demand for any month shall in no case be less than 110% of the sum of (1) 30 percent of the first 5,000 kW, (2) 40 percent of the next 20,000 kW, (3) 50 percent of the next 25,000 kW, (4) 60 percent of the next 50,000 kW, (5) 70 percent of the next 100,000 kW, (6) 80 percent of the next 150,000 kW, and (7) 85 percent of all kW in excess of 350,000 kW of the higher of the currently effective contract demand or the highest billing demand established during the preceding 12 months.

### Minimum Bill

The monthly bill under this rate schedule, excluding any facilities rental charges and any reactive charges, shall not be less than the sum of (1) the base customer charge and administrative charge, (2) the base demand charge, as adjusted (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applied to the customer's billing demand, and (3) the base energy charge, as adjusted, applied to the customer's energy takings.

KUB may require minimum bills higher than those stated above.

### Contract Requirement

KUB shall require contracts for all service provided under this rate schedule. The contract shall be for an initial term of at least five years and any renewals or extensions of the initial contract shall be for a term of at least five years; after ten years of service, any such contract for the renewal or extension of service may provide for termination upon not less than sixteen months' notice. The customer shall contract for its maximum requirements, which shall not exceed the amount of power capable of being used by customer, and KUB shall not be obligated to supply power in greater amount at any time than the customer's currently effective contract demand. If the customer uses any power other than that supplied by KUB under this rate schedule, the contract may include other special provisions. The rate schedule in any power contract shall be subject to adjustment, modification, change, or replacement from time to time as approved by the Board.

After having received service for at least one year under this rate schedule, the customer, subject to appropriate amendments in its power contract with KUB, may receive service under the General Power Rate - Schedule GSD. In such case the term of the power contract shall remain the same and the onpeak contract demand for service under the General Power Rate – Schedule GSD shall not be less than the contract demand in effect when service was taken under this rate schedule.

### Single-Point Delivery

The charges under this rate schedule are based upon the supply of service through a single delivery point, and at a single voltage. If service is supplied to the same customer through more than one point of delivery or at different voltages, the supply of service at each delivery point and at each different voltage shall be separately metered and billed.

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

## *MANUFACTURING SERVICE RATE SCHEDULE TDMSA*

### Availability

This rate, subject to availability from TVA, shall be available for firm electric power requirements where (a) a customer's currently effective onpeak or offpeak contract demand, whichever is higher, is greater than 1,000 kW but not more than 5,000 kW, and (b) the major use of electricity is for activities conducted at the delivery point serving that customer which are classified with a 2-digit Standard Industrial Classification Code between 20 and 39, inclusive, or classified with 2002 North American Industry Classification System (NAICS) code 5181, or 2007 NAICS codes 5182, 522320, and 541214.

Prior to initially taking any service under this schedule, and from time to time thereafter as may be required by KUB, a customer shall certify to KUB that it meets the requirements set forth in condition (b) above. The certification form to be used shall be furnished by KUB to the customer, and signed and promptly returned by the customer to KUB. Further, such customer shall promptly certify any change in the status of any of the information contained in the certification form.

Service during any period for which a customer does not meet the eligibility requirements set forth in condition (b) above will be made available by KUB under, and billed in accordance with, the applicable General Power schedule.

For a customer requesting that its onpeak contract demand be different from its offpeak contract demand, this rate schedule shall be available only for (1) a new contract, (2) a replacement or renewal contract following expiration of the existing contract, or (3) a replacement or renewal contract or an amended existing contract in which the customer is increasing its demand requirements above the existing contract demand level, but under this item (3) neither the new onpeak nor the new offpeak contract demand shall be lower than the customer's existing contract demand.

Prior to participation in this rate, contract amendments may be required for continued participation in certain other programs and rate overlays as determined at KUB's sole discretion.

## Character of Service

Alternating current, single or three-phase, 60 hertz. Power shall be delivered at a transmission voltage of 161 kV or, if such transmission voltage is not available, at the highest voltage available in the vicinity, unless at the customer's request a lower standard voltage is agreed upon.

## Base Charges

Customer Charge: $1,500 per delivery point per month.
Administrative Charge: $700 per delivery point per month.
Demand Charge:

Summer Period -
- Onpeak Demand is $9.79 per kW per month of the customer's onpeak billing demand, plus
- Maximum Demand is $4.08 per kW per month of the customer's maximum billing demand plus
- Excess Demand is $13.87 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Winter Period -
- Onpeak Demand is $8.87 per kW per month of the customer's onpeak billing demand, plus
- Maximum Demand is $4.08 per kW per month of the customer's maximum billing demand plus
- Excess Demand is $12.95 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Transition Period -
- Onpeak Demand is $8.87 per kW per month of the customer's onpeak billing demand, plus

Maximum Demand is $4.08 per kW per month of the customer's maximum billing demand plus

Excess Demand is $12.95 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Energy Charge:

Summer Period - Onpeak is 7.555¢ per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 5.165¢ per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 2.543¢ per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 2.299¢ per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

Winter Period - Onpeak is 6.464¢ per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 5.379¢ per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 2.543¢ per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 2.299¢ per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

Transition Period - Onpeak is 5.462¢ per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 5.462¢ per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 2.543¢ per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 2.299¢ per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

For the Summer Period, Winter Period, and Transition Period, Offpeak Block 1 energy rates less fuel rate of 2.025¢ per kWh per month shall be applied to the portion, if any, of the minimum offpeak energy takings amount that is greater than the metered energy.

## Facilities Rental Charge

There shall be no facilities rental charge under this rate schedule for delivery at bulk transmission voltage levels of 161kV or higher. For delivery at less than 161kV, there shall be added to the customer's bill a facilities rental charge. This charge shall be 37 cents per kW per month except for delivery at voltages below 46 kV, in which case the charge shall be 97 cents per kW per month for the first 10,000 kW and 76 cents per kW per month for the excess over 10,000 kW. Such charge shall be applied to the higher of (1) the highest billing demand established during the latest 12-consecutive-month period or (2) the higher of the customer's currently effective onpeak or offpeak contract demand and shall be in addition to all other charges under this rate schedule, including minimum bill charges.

## Reactive Demand Charge

If the reactive demand (in kVAR) is lagging during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's highest metered demand occurs, there shall be added to the customer's bill a reactive charge of $1.46 per kVAR of the amount, if any, by which the reactive demand exceeds 33 percent of such metered demand. If the reactive demand (in kVAR) is leading during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's lowest metered demand (excluding any metered demands which are less than 25 percent of the highest metered demand) occurs, there shall be added to the customer's bill a reactive charge of $1.14 per kVAR of the amount of reactive demand. Such charges shall be in addition to all other charges under this rate schedule, including minimum bill charges.

## Adjustment

Charges under this rate schedule may be increased or decreased to reflect changes in purchased power costs as determined by any purchased power adjustment adopted by the Board.

## Determination of Seasonal Periods

Summer Period shall mean the June, July, August, and September billing months. Winter Period shall mean the December, January, February, and March billing months. Transition Period shall mean the April, May, October, and November billing months. The Seasonal Periods under this rate schedule are subject to change by KUB. In the event KUB determines that changed Seasonal Periods are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed periods, and KUB shall promptly notify customer.

## Determination of Onpeak and Offpeak Hours

Except for Saturdays and Sundays and the weekdays that are observed as Federal holidays for New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day, and provided further that onpeak hours shall not include hours that fall on November 1 of each year when November 1 falls on any day other than Monday, onpeak hours for each day shall for purposes of this rate schedule be 1 p.m. to 7 p.m. during the months of April, May, June, July, August, September and October and from 4 a.m. to 10 a.m. during the months of January, February, March, November, and December. All other hours of each day that are not otherwise defined as onpeak hours and all hours of such excepted days shall be offpeak hours. Such times shall be Central Standard Time or Central Daylight Time, whichever is then in effect. Said onpeak and offpeak hours are subject to change by KUB. In the event KUB determines that such changed onpeak and offpeak hours are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed hours, and KUB shall promptly notify customer.

## Determination of Onpeak and Offpeak Demands, Maximum Metered Demand, and Energy Amounts

The onpeak and offpeak kWh for any month shall be the energy amounts taken during the respective hours of the month designated under this rate schedule as onpeak and offpeak hours; provided, however, that notwithstanding the metered energy amount, the offpeak energy for any month shall in no case be less than the product of (1) the offpeak billing demand as calculated in the last sentence of the paragraph below and (2) 110 hours (reflecting a 15 percent load factor applied to the average number of hours in a month).

KUB shall meter the onpeak and offpeak demands in kW of all customers taking service under this rate schedule. The onpeak metered demand and offpeak metered demand for any month shall be determined separately for the respective hours of the month designated under this rate schedule as onpeak and offpeak hours and in each case shall be the highest average during any 30-consecutive-minute period beginning or ending on a clock hour of the month of the load metered in kW, and, except as provided below in this section, such amounts shall be used as the onpeak and offpeak billing demands.

The maximum billing demand for any month shall be the higher of (1) the highest onpeak billing demand in the month or (2) the highest offpeak billing demand in the month. The onpeak billing demand shall in no case be less than the sum of (1) 30 percent of the first 5,000 kW and (2) 40 percent of any kW in excess of 5,000 kW of the higher of the currently effective onpeak contract demand or the highest onpeak billing demand established during the preceding 12 months. The offpeak billing demand shall in no case be less than the sum of (1) 30 percent of the first 5,000 kW and (2) 40 percent of any kW in excess of 5,000 kW of the higher of the currently effective offpeak contract demand or the highest offpeak billing demand established during the preceding 12 months.

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## Minimum Bill

The monthly bill under this rate schedule, excluding any facilities rental charges and any reactive charges, shall not be less than the sum of (1) the base customer charge and administrative charge, (2) the portion of the base demand charge, as adjusted (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applicable to onpeak billing demand applied to the customer's onpeak billing demand, (3) the portion of the base demand charge, as adjusted, (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applicable to maximum billing demand applied to the customer's maximum billing demand, (4) the base onpeak energy charge, as adjusted, applied to the customer's onpeak energy takings, and (5) the base offpeak energy charge, as adjusted, applied to the higher of customer's actual offpeak energy takings or the minimum offpeak energy takings amount provided for in the first paragraph of the section of this rate schedule entitled "Determination of Onpeak and Offpeak Demands, Maximum Metered Demand, and Energy Amounts". Notwithstanding the foregoing, any fuel cost that is included in any purchased power adjustment adopted by the Board shall not be applied to any billed offpeak energy that exceeds the metered offpeak energy.

KUB may require minimum bills higher than those stated above.

## Contract Requirement

KUB shall require contracts for all service provided under this rate schedule. The contract shall be for an initial term of at least five years and any renewals or extensions of the initial contract shall be for a term of at least one year; after ten years of service, any such contract for the renewal or extension of service may provide for termination upon not less than four months' notice. The customer shall contract for its maximum requirements, which shall not exceed the amount of power capable of being used by customer, and KUB shall not be obligated to supply power in greater amount at any time than the customer's currently effective onpeak or offpeak contract demand. If the customer uses any power other than that supplied by KUB under this rate schedule, the contract may include other special provisions. The rate schedule in any power contract shall be subject to adjustment, modification, change, or replacement from time to time as approved by the Board.

## Single Point Delivery

The charges under this rate schedule are based upon the supply of service through a single delivery point and at a single voltage. If service is supplied to the same customer through more than one point of delivery or at different voltages, the supply of service at each delivery point and at each different voltage shall be separately metered and billed.

## Rules and Regulations

Service is subject to Rules and Regulations of KUB.

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# *MANUFACTURING SERVICE RATE SCHEDULE MSB*

## Availability

This rate, subject to availability from TVA, shall be available for firm electric power requirements where (a) a customer's currently effective onpeak or offpeak contract demand, whichever is higher, is greater than 5,000 kW but not more than 15,000 kW, and (b) the major use of electricity is for activities conducted at the delivery point serving that customer which are classified with a 2-digit Standard Industrial Classification Code between 20 and 39, inclusive, or classified with 2002 North American Industry Classification System (NAICS) code 5181, or 2007 NAICS codes 5182, 522320, and 541214.

Prior to initially taking any service under this schedule, and from time to time thereafter as may be required by KUB, a customer shall certify to KUB that it meets the requirements set forth in condition (b) above. The certification form to be used shall be furnished by KUB to the customer, and signed and promptly returned by the customer to KUB. Further, such customer shall promptly certify any change in the status of any of the information contained in the certification form.

Service during any period for which a customer does not meet the eligibility requirements set forth in condition (b) above will be made available by KUB under, and billed in accordance with, the applicable General Power schedule.

For a customer requesting that its onpeak contract demand be different from its offpeak contract demand, this rate schedule shall be available only for (1) a new contract, (2) a replacement or renewal contract following expiration of the existing contract, or (3) a replacement or renewal contract or an amended existing contract in which the customer is increasing its demand requirements above the existing contract demand level, but under this item (3) neither the new onpeak nor the new offpeak contract demand shall be lower than the customer's existing contract demand.

Prior to participation in this rate, contract amendments may be required for continued participation in certain other programs and rate overlays as determined at KUB's sole discretion.

## Character of Service

Alternating current, single or three-phase, 60 hertz. Power shall be delivered at a transmission voltage of 161 kV or, if such transmission voltage is not available, at the highest voltage available in the vicinity, unless at the customer's request a lower standard voltage is agreed upon.

## Base Charges

| | |
|---|---|
| Customer Charge: | $1,500 per delivery point per month. |
| Administrative Charge: | $700 per delivery point per month. |
| Demand Charge: | |

Summer Period - Onpeak Demand is $9.79 per kW per month of the customer's onpeak billing demand, plus

Maximum Demand is $2.83 per kW per month of the customer's maximum billing demand plus

Excess Demand is $12.62 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Winter Period - Onpeak Demand is $8.87 per kW per month of the customer's onpeak billing demand, plus

Maximum Demand is $2.83 per kW per month of the customer's maximum billing demand plus

Excess Demand is $11.70 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Transition Period - Onpeak Demand is $8.87 per kW per month of the customer's onpeak billing demand, plus

Maximum Demand is $2.83 per kW per month of the customer's maximum billing demand plus

Excess Demand is $11.70 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Energy Charge:

Summer Period - Onpeak is 7.772¢ per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 5.383¢ per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 2.543¢ per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 2.299¢ per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

Winter Period - Onpeak is 6.682¢ per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 5.596¢ per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 2.543¢ per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 2.299¢ per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

Transition Period - Onpeak is 5.679¢ per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 5.679¢ per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 2.543¢ per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 2.299¢ per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

For the Summer Period, Winter Period, and Transition Period, Offpeak Block 1 energy rates less fuel rate of 2.025¢ per kWh per month shall be applied to the portion, if any, of the minimum offpeak energy takings amount that is greater than the metered energy.

### Facilities Rental Charge

There shall be no facilities rental charge under this rate schedule for delivery at bulk transmission voltage levels of 161kV or higher. For delivery at less than 161kV, there shall be added to the customer's bill a facilities rental charge. This charge shall be 37 cents per kW per month except for delivery at voltages below 46 kV, in which case the charge shall be 97 cents per kW per month for the first 10,000 kW and 76 cents per kW per month for the excess over 10,000 kW. Such charge shall be applied to the higher of (1) the highest billing demand established during the latest 12-consecutive-month period or (2) the higher of the customer's currently effective onpeak or offpeak contract demand and shall be in addition to all other charges under this rate schedule, including minimum bill charges.

### Reactive Demand Charge

If the reactive demand (in kVAR) is lagging during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's highest metered demand occurs, there shall be added to the customer's bill a reactive charge of $1.46 per kVAR of the amount, if any, by which the reactive demand exceeds 33 percent of such metered demand. If the reactive demand (in kVAR) is leading during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's lowest metered demand (excluding any metered demands which are less than 25 percent of the highest metered demand) occurs, there shall be added to the customer's bill a reactive charge of $1.14 per kVAR of the amount of reactive demand. Such charges shall be in addition to all other charges under this rate schedule, including minimum bill charges.

## Adjustment

Charges under this rate schedule may be increased or decreased to reflect changes in purchased power costs as determined by any purchased power adjustment adopted by the Board.

## Determination of Seasonal Periods

Summer Period shall mean the June, July, August, and September billing months. Winter Period shall mean the December, January, February, and March billing months. Transition Period shall mean the April, May, October, and November billing months. The Seasonal Periods under this rate schedule are subject to change by KUB. In the event KUB determines that changed Seasonal Periods are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed periods, and KUB shall promptly notify customer.

## Determination of Onpeak and Offpeak Hours

Except for Saturdays and Sundays and the weekdays that are observed as Federal holidays for New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day, and provided further that onpeak hours shall not include hours that fall on November 1 of each year when November 1 falls on any day other than Monday, onpeak hours for each day shall for purposes of this rate schedule be 1 p.m. to 7 p.m. during the months of April, May, June, July, August, September and October and from 4 a.m. to 10 a.m. during the months of January, February, March, November, and December. All other hours of each day that are not otherwise defined as onpeak hours and all hours of such excepted days shall be offpeak hours. Such times shall be Central Standard Time or Central Daylight Time, whichever is then in effect. Said onpeak and offpeak hours are subject to change by KUB. In the event KUB determines that such changed onpeak and offpeak hours are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed hours, and KUB shall promptly notify customer.

## Determination of Onpeak and Offpeak Demands, Maximum Metered Demand, and Energy Amounts

The onpeak and offpeak kWh for any month shall be the energy amounts taken during the respective hours of the month designated under this rate schedule as onpeak and offpeak hours; provided, however, that notwithstanding the metered energy amount, the offpeak energy for any month shall in no case be less than the product of (1) the offpeak billing demand as calculated in the last sentence of the paragraph below and (2) 110 hours (reflecting a 15 percent load factor applied to the average number of hours in a month).

KUB shall meter the onpeak and offpeak demands in kW of all customers taking service under this rate schedule. The onpeak metered demand and offpeak metered demand for any month shall be determined separately for the respective hours of the month designated under this rate schedule as onpeak and offpeak hours and in each case shall be the highest average during any 30-consecutive-minute period beginning or ending on a clock hour of the month of the load metered in kW, and, except as provided below in this section, such amounts shall be used as the onpeak and offpeak billing demands.

The maximum billing demand for any month shall be the higher of (1) the highest onpeak billing demand in the month or (2) the highest offpeak billing demand in the month. The onpeak billing demand shall in no case be less than the sum of (1) 30 percent of the first 5,000 kW and (2) 40 percent of any kW in excess of 5,000 kW of the higher of the currently effective onpeak contract demand or the highest onpeak billing demand established during the preceding 12 months. The offpeak billing demand shall in no case be less than the sum of (1) 30 percent of the first 5,000 kW and (2) 40 percent of any kW in excess of 5,000 kW of the higher of the currently effective offpeak contract demand or the highest offpeak billing demand established during the preceding 12 months.

## Minimum Bill

The monthly bill under this rate schedule, excluding any facilities rental charges and any reactive charges, shall not be less than the sum of (1) the base customer charge and administrative charge, (2) the portion of the base demand charge, as adjusted (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applicable to onpeak billing demand applied to the customer's onpeak billing demand, (3) the portion of the base demand charge, as adjusted, (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applicable to maximum billing demand applied to the customer's maximum billing demand, (4) the base onpeak energy charge, as adjusted, applied to the customer's onpeak energy takings, and (5) the base offpeak energy charge, as adjusted, applied to the higher of customer's actual offpeak energy takings or the minimum offpeak energy takings amount provided for in the first paragraph of the section of this rate schedule entitled "Determination of Onpeak and Offpeak Demands, Maximum Metered Demand, and Energy Amounts". Notwithstanding the foregoing, any fuel cost that is included in any purchased power adjustment adopted by the Board shall not be applied to any billed offpeak energy that exceeds the metered offpeak energy.

KUB may require minimum bills higher than those stated above.

## Contract Requirement

KUB shall require contracts for all service provided under this rate schedule. The contract shall be for an initial term of at least five years and any renewals or extensions of the initial contract shall be for a term of at least one year; after ten years of service, any such contract for the renewal or extension of service may provide for termination upon not less than four months' notice. The customer shall contract for its maximum requirements, which shall not exceed the amount of power capable of being used by customer, and KUB shall not be obligated to supply power in greater amount at any time than the customer's currently effective onpeak or offpeak contract demand. If the customer uses any power other than that supplied by KUB under this rate schedule, the contract may include other special provisions. The rate schedule in any power contract shall be subject to adjustment, modification, change, or replacement from time to time as approved by the Board.

### Single Point Delivery

The charges under this rate schedule are based upon the supply of service through a single delivery point and at a single voltage. If service is supplied to the same customer through more than one point of delivery or at different voltages, the supply of service at each delivery point and at each different voltage shall be separately metered and billed.

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

## *MANUFACTURING SERVICE RATE SCHEDULE MSC*

### Availability

This rate, subject to availability from TVA, shall be available for firm electric power requirements where (a) a customer's currently effective onpeak or offpeak contract demand, whichever is higher, is greater than 15,000 kW but not more than 25,000 kW, and (b) the major use of electricity is for activities conducted at the delivery point serving that customer which are classified with a 2-digit Standard Industrial Classification Code between 20 and 39, inclusive, or classified with 2002 North American Industry Classification System (NAICS) code 5181, or 2007 NAICS codes 5182, 522320, and 541214.

Prior to initially taking any service under this schedule, and from time to time thereafter as may be required by KUB, a customer shall certify to KUB that it meets the requirements set forth in condition (b) above. The certification form to be used shall be furnished by KUB to the customer, and signed and promptly returned by the customer to KUB. Further, such customer shall promptly certify any change in the status of any of the information contained in the certification form.

Service during any period for which a customer does not meet the eligibility requirements set forth in condition (b) above will be made available by KUB under, and billed in accordance with, the applicable General Power schedule.

For a customer requesting that its onpeak contract demand be different from its offpeak contract demand, this rate schedule shall be available only for (1) a new contract, (2) a replacement or renewal contract following expiration of the existing contract, or (3) a replacement or renewal contract or an amended existing contract in which the customer is increasing its demand requirements above the existing contract demand level, but under this item (3) neither the new onpeak nor the new offpeak contract demand shall be lower than the customer's existing contract demand.

Prior to participation in this rate, contract amendments may be required for continued participation in certain other programs and rate overlays as determined at KUB's sole discretion.

## Character of Service

Alternating current, single or three-phase, 60 hertz. Power shall be delivered at a transmission voltage of 161 kV or, if such transmission voltage is not available, at the highest voltage available in the vicinity, unless at the customer's request a lower standard voltage is agreed upon.

## Base Charges

Customer Charge: $1,500 per delivery point per month.
Administrative Charge: $700 per delivery point per month.
Demand Charge:

Summer Period -
Onpeak Demand is $9.79 per kW per month of the customer's onpeak billing demand, plus
Maximum Demand is $2.71 per kW per month of the customer's maximum billing demand plus
Excess Demand is $12.50 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Winter Period -
Onpeak Demand $8.87 per kW per month of the customer's onpeak billing demand, plus
Maximum Demand is $2.71 per kW per month of the customer's maximum billing demand plus
Excess Demand is $11.58 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Transition Period -
Onpeak Demand is $8.87 per kW per month of the customer's onpeak billing demand, plus
Maximum Demand is $2.71 per kW per month of the customer's maximum billing demand plus

Excess Demand is $11.58 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Energy Charge:

Summer Period - Onpeak is 7.665¢ per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 5.274¢ per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 2.678¢ per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 2.678¢ per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

Winter Period - Onpeak is 6.574¢ per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 5.487¢ per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 2.678¢ per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 2.678¢ per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

Transition Period - Onpeak is 5.571¢ per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 5.571¢ per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 2.678¢ per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 2.678¢ per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

For the Summer Period, Winter Period, and Transition Period, Offpeak Block 1 energy rates less fuel rate of 2.025¢ per kWh per month shall be applied to the portion, if any, of the minimum offpeak energy takings amount that is greater than the metered energy.

## Facilities Rental Charge

There shall be no facilities rental charge under this rate schedule for delivery at bulk transmission voltage levels of 161kV or higher. For delivery at less than 161kV, there shall be added to the customer's bill a facilities rental charge. This charge shall be 37 cents per kW per month except for delivery at voltages below 46 kV, in which case the charge shall be 97 cents per kW per month for the first 10,000 kW and 76 cents per kW per month for the excess over 10,000 kW. Such charge shall be applied to the higher of (1) the highest billing demand established during the latest 12-consecutive-month period or (2) the higher of the customer's currently effective onpeak or offpeak contract demand and shall be in addition to all other charges under this rate schedule, including minimum bill charges.

## Reactive Demand Charge

If the reactive demand (in kVAR) is lagging during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's highest metered demand occurs, there shall be added to the customer's bill a reactive charge of $1.46 per kVAR of the amount, if any, by which the reactive demand exceeds 33 percent of such metered demand. If the reactive demand (in kVAR) is leading during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's lowest metered demand (excluding any metered demands which are less than 25 percent of the highest metered demand) occurs, there shall be added to the customer's bill a reactive charge of $1.14 per kVAR of the amount of reactive demand. Such charges shall be in addition to all other charges under this rate schedule, including minimum bill charges.

## Adjustment

Charges under this rate schedule may be increased or decreased to reflect changes in purchased power costs as determined by any purchased power adjustment adopted by the Board.

## Determination of Seasonal Periods

Summer Period shall mean the June, July, August, and September billing months. Winter Period shall mean the December, January, February, and March billing months. Transition Period shall mean the April, May, October, and November billing months. The Seasonal Periods under this rate schedule are subject to change by KUB. In the event KUB determines that changed Seasonal Periods are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed periods, and KUB shall promptly notify customer.

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## Determination of Onpeak and Offpeak Hours

Except for Saturdays and Sundays and the weekdays that are observed as Federal holidays for New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day, and provided further that onpeak hours shall not include hours that fall on November 1 of each year when November 1 falls on any day other than Monday, onpeak hours for each day shall for purposes of this rate schedule be 1 p.m. to 7 p.m. during the months of April, May, June, July, August, September and October and from 4 a.m. to 10 a.m. during the months of January, February, March, November, and December. All other hours of each day that are not otherwise defined as onpeak hours and all hours of such excepted days shall be offpeak hours. Such times shall be Central Standard Time or Central Daylight Time, whichever is then in effect. Said onpeak and offpeak hours are subject to change by KUB. In the event KUB determines that such changed onpeak and offpeak hours are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed hours, and KUB shall promptly notify customer.

## Determination of Onpeak and Offpeak Demands, Maximum Metered Demand, and Energy Amounts

The onpeak and offpeak kWh for any month shall be the energy amounts taken during the respective hours of the month designated under this rate schedule as onpeak and offpeak hours; provided, however, that notwithstanding the metered energy amount, the offpeak energy for any month shall in no case be less than the product of (1) the offpeak billing demand as calculated in the last sentence of the paragraph below and (2) 110 hours (reflecting a 15 percent load factor applied to the average number of hours in a month).

KUB shall meter the onpeak and offpeak demands in kW of all customers taking service under this rate schedule. The onpeak metered demand and offpeak metered demand for any month shall be determined separately for the respective hours of the month designated under this rate schedule as onpeak and offpeak hours and in each case shall be the highest average during any 30-consecutive-minute period beginning or ending on a clock hour of the month of the load metered in kW, and, except as provided below in this section, such amounts shall be used as the onpeak and offpeak billing demands.

The maximum billing demand for any month shall be the higher of (1) the highest onpeak billing demand in the month or (2) the highest offpeak billing demand in the month. The onpeak billing demand shall in no case be less than the sum of (1) 30 percent of the first 5,000 kW, (2) 40 percent of the next 20,000 kW, and (3) 50 percent of any kW in excess of 25,000 kW of the higher of the currently effective onpeak contract demand or the highest onpeak billing demand established during the preceding 12 months. The offpeak billing demand shall in no case be less than the sum of (1) 30 percent of the first 5,000 kW, (2) 40 percent of the next 20,000 kW, and (3) 50 percent of any kW in excess of 25,000 kW of the higher of the currently effective offpeak contract demand or the highest offpeak billing demand established during the preceding 12 months.

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## Minimum Bill

The monthly bill under this rate schedule, excluding any facilities rental charges and any reactive charges, shall not be less than the sum of (1) the base customer charge and administrative charge, (2) the portion of the base demand charge, as adjusted (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applicable to onpeak billing demand applied to the customer's onpeak billing demand, (3) the portion of the base demand charge, as adjusted, (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applicable to maximum billing demand applied to the customer's maximum billing demand, (4) the base onpeak energy charge, as adjusted, applied to the customer's onpeak energy takings, and (5) the base offpeak energy charge, as adjusted, applied to the higher of customer's actual offpeak energy takings or the minimum offpeak energy takings amount provided for in the first paragraph of the section of this rate schedule entitled "Determination of Onpeak and Offpeak Demands, Maximum Metered Demand, and Energy Amounts". Notwithstanding the foregoing, any fuel cost that is included in any purchased power adjustment adopted by the Board shall not be applied to any billed offpeak energy that exceeds the metered offpeak energy.

KUB may require minimum bills higher than those stated above.

## Contract Requirement

KUB shall require contracts for all service provided under this rate schedule. The contract shall be for an initial term of at least five years and any renewals or extensions of the initial contract shall be for a term of at least one year; after ten years of service, any such contract for the renewal or extension of service may provide for termination upon not less than four months' notice. The customer shall contract for its maximum requirements, which shall not exceed the amount of power capable of being used by customer, and KUB shall not be obligated to supply power in greater amount at any time than the customer's currently effective onpeak or offpeak contract demand. If the customer uses any power other than that supplied by KUB under this rate schedule, the contract may include other special provisions. The rate schedule in any power contract shall be subject to adjustment, modification, change, or replacement from time to time as approved by the Board.

## Single Point Delivery

The charges under this rate schedule are based upon the supply of service through a single delivery point and at a single voltage. If service is supplied to the same customer through more than one point of delivery or at different voltages, the supply of service at each delivery point and at each different voltage shall be separately metered and billed.

## Rules and Regulations

Service is subject to Rules and Regulations of KUB.

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# *MANUFACTURING SERVICE RATE SCHEDULE MSD*

## Availability

This rate, subject to availability from TVA, shall be available for firm electric power requirements where (a) a customer's currently effective onpeak or offpeak contract demand, whichever is higher, is greater than 25,000 kW, and (b) the major use of electricity is for activities conducted at the delivery point serving that customer which are classified with a 2-digit Standard Industrial Classification Code between 20 and 39, inclusive, or classified with 2002 North American Industry Classification System (NAICS) code 5181, or 2007 NAICS codes 5182, 522320, and 541214.

Prior to initially taking any service under this schedule, and from time to time thereafter as may be required by KUB, a customer shall certify to KUB that it meets the requirements set forth in condition (b) above. The certification form to be used shall be furnished by KUB to the customer, and signed and promptly returned by the customer to KUB. Further, such customer shall promptly certify any change in the status of any of the information contained in the certification form.

Service during any period for which a customer does not meet the eligibility requirements set forth in condition (b) above will be made available by KUB under, and billed in accordance with, the applicable General Power schedule.

For a customer requesting that its onpeak contract demand be different from its offpeak contract demand, this rate schedule shall be available only for (1) a new contract, (2) a replacement or renewal contract following expiration of the existing contract, or (3) a replacement or renewal contract or an amended existing contract in which the customer is increasing its demand requirements above the existing contract demand level, but under this item (3) neither the new onpeak nor the new offpeak contract demand shall be lower than the customer's existing contract demand.

Prior to participation in this rate, contract amendments may be required for continued participation in certain other programs and rate overlays as determined at KUB's sole discretion.

## Character of Service

Alternating current, single or three-phase, 60 hertz. Power shall be delivered at a transmission voltage of 161 kV or, if such transmission voltage is not available, at the highest voltage available in the vicinity, unless at the customer's request a lower standard voltage is agreed upon.

## Base Charges

| | |
|---|---|
| Customer Charge: | $1,500 per delivery point per month. |
| Administrative Charge: | $700 per delivery point per month. |
| Demand Charge: | |

Summer Period - Onpeak Demand is $9.79 per kW per month of the customer's onpeak billing demand, plus

Maximum Demand is $2.58 per kW per month of the customer's maximum billing demand plus

Excess Demand is $12.37 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Winter Period - Onpeak Demand is $8.87 per kW per month of the customer's onpeak billing demand, plus

Maximum Demand is $2.58 per kW per month of the customer's maximum billing demand plus

Excess Demand is $11.45 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Transition Period - Onpeak Demand is $8.87 per kW per month of the customer's onpeak billing demand, plus

Maximum Demand is $2.58 per kW per month of the customer's maximum billing demand plus

Excess Demand is $11.45 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Energy Charge:

Summer Period - Onpeak is 7.471¢ per kWh per month for all metered onpeak kWh, plus

Offpeak

<u>Block 1</u> 5.080¢ per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

<u>Block 2</u> 2.540¢ per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

<u>Block 3</u> 2.484¢ per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

Winter Period - Onpeak is 6.380¢ per kWh per month for all metered onpeak kWh, plus

Offpeak

<u>Block 1</u> 5.293¢ per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

<u>Block 2</u> 2.540¢ per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

<u>Block 3</u> 2.484¢ per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

Transition Period - Onpeak is 5.377¢ per kWh per month for all metered onpeak kWh, plus

Offpeak

<u>Block 1</u> 5.377¢ per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

<u>Block 2</u> 2.540¢ per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

<u>Block 3</u> 2.484¢ per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

For the Summer Period, Winter Period, and Transition Period, Offpeak Block 1 energy rates less fuel rate of 2.025¢ per kWh per month shall be applied to the portion, if any, of the minimum offpeak energy takings amount that is greater than the metered energy.

### Facilities Rental Charge

There shall be no facilities rental charge under this rate schedule for delivery at bulk transmission voltage levels of 161kV or higher. For delivery at less than 161kV, there shall be added to the customer's bill a facilities rental charge. This charge shall be 37 cents per kW per month except for delivery at voltages below 46 kV, in which case the charge shall be 97 cents per kW per month for the first 10,000 kW and 76 cents per kW per month for the excess over 10,000 kW. Such charge shall be applied to the higher of (1) the highest billing demand established during the latest 12-consecutive-month period or (2) the higher of the customer's currently effective onpeak or offpeak contract demand and shall be in addition to all other charges under this rate schedule, including minimum bill charges.

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## Reactive Demand Charge

If the reactive demand (in kVAR) is lagging during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's highest metered demand occurs, there shall be added to the customer's bill a reactive charge of $1.46 per kVAR of the amount, if any, by which the reactive demand exceeds 33 percent of such metered demand. If the reactive demand (in kVAR) is leading during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's lowest metered demand (excluding any metered demands which are less than 25 percent of the highest metered demand) occurs, there shall be added to the customer's bill a reactive charge of $1.14 per kVAR of the amount of reactive demand. Such charges shall be in addition to all other charges under this rate schedule, including minimum bill charges.

## Adjustment

Charges under this rate schedule may be increased or decreased to reflect changes in purchased power costs as determined by any purchased power adjustment adopted by the Board.

## Determination of Seasonal Periods

Summer Period shall mean the June, July, August, and September billing months. Winter Period shall mean the December, January, February, and March billing months. Transition Period shall mean the April, May, October, and November billing months. The Seasonal Periods under this rate schedule are subject to change by KUB. In the event KUB determines that changed Seasonal Periods are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed periods, and KUB shall promptly notify customer.

## Determination of Onpeak and Offpeak Hours

Except for Saturdays and Sundays and the weekdays that are observed as Federal holidays for New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day, and provided further that onpeak hours shall not include hours that fall on November 1 of each year when November 1 falls on any day other than Monday, onpeak hours for each day shall for purposes of this rate schedule be 1 p.m. to 7 p.m. during the months of April, May, June, July, August, September and October and from 4 a.m. to 10 a.m. during the months of January, February, March, November, and December. All other hours of each day that are not otherwise defined as onpeak hours and all hours of such excepted days shall be offpeak hours. Such times shall be Central Standard Time or Central Daylight Time, whichever is then in effect. Said onpeak and offpeak hours are subject to change by KUB. In the event KUB determines that such changed onpeak and offpeak hours are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed hours, and KUB shall promptly notify customer.

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## Determination of Onpeak and Offpeak Demands, Maximum Metered Demand, and Energy Amounts

The onpeak and offpeak kWh for any month shall be the energy amounts taken during the respective hours of the month designated under this rate schedule as onpeak and offpeak hours; provided, however, that notwithstanding the metered energy amount, the offpeak energy for any month shall in no case be less than the product of (1) the offpeak billing demand as calculated in the last sentence of the paragraph below and (2) 110 hours (reflecting a 15 percent load factor applied to the average number of hours in a month).

KUB shall meter the onpeak and offpeak demands in kW of all customers taking service under this rate schedule. The onpeak metered demand and offpeak metered demand for any month shall be determined separately for the respective hours of the month designated under this rate schedule as onpeak and offpeak hours and in each case shall be the highest average during any 30-consecutive-minute period beginning or ending on a clock hour of the month of the load metered in kW, and, except as provided below in this section, such amounts shall be used as the onpeak and offpeak billing demands.

The maximum billing demand for any month shall be the higher of (1) the highest onpeak billing demand in the month or (2) the highest offpeak billing demand in the month. The onpeak billing demand shall in no case be less than the sum of (1) 30 percent of the first 5,000 kW and (2) 40 percent of the next 20,000 kW (3) 50 percent of the next 25,000 kW, (4) 60 percent of the next 50,000 kW, (5) 70 percent of the next 100,000 kW, (6) 80 percent of the next 150,000 kW, and (7) 85 percent of all kW in excess of 350,000 kW of the higher of the currently effective onpeak contract demand or the highest onpeak billing demand established during the preceding 12 months. The offpeak billing demand shall in no case be less than the sum of (1) 30 percent of the first 5,000 kW, (2) 40 percent of the next 20,000 kW, (3) 50 percent of the next 25,000 kW, (4) 60 percent of the next 50,000 kW, and (5) 70 percent of the next 100,000 kW, (6) 80 percent of the next 150,000 kW, and (7) 85 percent of all kW in excess of 350,000 kW of the higher of the currently effective offpeak contract demand or the highest offpeak billing demand established during the preceding 12 months.

## Minimum Bill

The monthly bill under this rate schedule, excluding any facilities rental charges and any reactive charges, shall not be less than the sum of (1) the base customer charge and administrative charge, (2) the portion of the base demand charge, as adjusted (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applicable to onpeak billing demand applied to the customer’s onpeak billing demand, (3) the portion of the base demand charge, as adjusted, (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applicable to maximum billing demand applied to the customer’s maximum billing demand, (4) the base onpeak energy charge, as adjusted, applied to the customer’s onpeak energy takings, and (5) the base offpeak energy charge, as adjusted, applied to the higher of customer’s actual offpeak energy takings or the minimum offpeak energy takings amount provided for in the first paragraph of the section of this rate schedule entitled “Determination of Onpeak and Offpeak Demands, Maximum Metered

Demand, and Energy Amounts". Notwithstanding the foregoing, any fuel cost that is included in any purchased power adjustment adopted by the Board shall not be applied to any billed offpeak energy that exceeds the metered offpeak energy.

KUB may require minimum bills higher than those stated above.

### Contract Requirement

KUB shall require contracts for all service provided under this rate schedule. The contract shall be for an initial term of at least five years and any renewals or extensions of the initial contract shall be for a term of at least one year; after ten years of service, any such contract for the renewal or extension of service may provide for termination upon not less than four months' notice. The customer shall contract for its maximum requirements, which shall not exceed the amount of power capable of being used by customer, and KUB shall not be obligated to supply power in greater amount at any time than the customer's currently effective onpeak or offpeak contract demand. If the customer uses any power other than that supplied by KUB under this rate schedule, the contract may include other special provisions. The rate schedule in any power contract shall be subject to adjustment, modification, change, or replacement from time to time as approved by the Board.

### Single Point Delivery

The charges under this rate schedule are based upon the supply of service through a single delivery point and at a single voltage. If service is supplied to the same customer through more than one point of delivery or at different voltages, the supply of service at each delivery point and at each different voltage shall be separately metered and billed.

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

## *SEASONAL DEMAND AND ENERGY MANUFACTURING SERVICE RATE SCHEDULE SMSB*

### Availability

This rate, subject to availability from TVA, shall be available for firm electric power requirements where (a) a customer's currently effective contract demand is greater than 5,000 kW but not more than 15,000 kW and (b) the major use of electricity is for activities conducted at the delivery point serving that customer which are classified with a 2-digit Standard Industrial Classification Code between 20 and 39, inclusive, or classified with 2002 North American Industry Classification System (NAICS) code 5181, or 2007 NAICS codes 5182, 522320, and 541214.

Prior to initially taking any service under this schedule, and from time to time thereafter as may be required by KUB, a customer shall certify to KUB that it meets the requirements set forth in condition (b) above. The certification form to be used shall be furnished by KUB to the customer, and signed and promptly returned by the customer to KUB. Further, such customer shall promptly certify any change in the status of any of the information contained in the certification form to Distributor.

Service during any period for which a customer does not meet the eligibility requirements set forth in condition (b) above will be made available by KUB under, and billed in accordance with, the applicable General Power schedule.

Prior to participation in this rate, contract amendments may be required for continued participation in certain other programs and rate overlays as determined at KUB's sole discretion.

## Character of Service

Alternating current, single- or three-phase, 60 hertz. Power shall be delivered at a transmission voltage of 161 kV or, if such transmission voltage is not available, at the highest voltage available in the vicinity, unless at the customer's request a lower standard voltage is agreed upon.

## Base Charges

| | | |
|---|---|---|
| Customer Charge: | | $1,500 per delivery point per month |
| Administrative Charge: | | $700 per delivery point per month |
| Demand Charge: | | |
| | Summer Period - | $17.44 per kW per month of the customer's billing demand, plus<br>$17.44 per kW per month of the amount, if any, by which the customer's billing demand exceeds its contract demand |
| | Winter Period - | $14.29 per kW per month of the customer's billing demand, plus<br>$14.29 per kW per month of the amount, if any, by which the customer's billing demand exceeds its contract demand |
| | Transition Period - | $11.12 per kW per month of the customer's billing demand, plus<br>$11.12 per kW per month of the amount, if any, by which the customer's billing demand exceeds its contract demand |
| Energy Charge: | | |
| | Summer Period - | 4.381¢ per kWh per month |
| | Winter Period - | 3.866¢ per kWh per month |
| | Transition Period - | 3.746¢ per kWh per month |

## Adjustment

Charges under this rate schedule may be increased or decreased to reflect changes in purchased power costs as determined by any purchased power adjustment adopted by the Board.

## Facilities Rental Charge

There shall be no facilities rental charge under this rate schedule for delivery at bulk transmission voltage levels of 161 kV or higher. For delivery at less than 161 kV, there shall be added to the customer's bill a facilities rental charge. This charge shall be 37 cents per kW per month except for delivery at voltages below 46 kV, in which case the charge shall be 97 cents per kW per month for the first 10,000 kW and 76 cents per kW per month for the excess over 10,000 kW. Such charge shall be applied to the higher of (1) the highest billing demand established during the latest 12-consecutive-month period or (2) the customer's currently effective contract demand and shall be in addition to all other charges under this rate schedule, including minimum bill charges.

## Reactive Demand Charges

If the reactive demand (in kVAR) is lagging during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer’s highest metered demand occurs, there shall be added to the customer’s bill a reactive charge of $1.46 per kVAR of the amount, if any, by which the reactive demand exceeds 33 percent of such metered demand. If the reactive demand (in kVAR) is leading during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer’s lowest metered demand (excluding any metered demands which are less than 25 percent of the highest metered demand) occurs, there shall be added to the customer’s bill a reactive charge of $1.14 per kVAR of the amount of reactive demand. Such charges shall be in addition to all other charges under this rate schedule, including minimum bill charges.

## Determination of Seasonal Periods

Summer Period shall mean the June, July, August, and September billing months. Winter Period shall mean the December, January, February, and March billing months. Transition Period shall mean the April, May, October, and November billing months. The Seasonal Periods under this rate schedule are subject to change by KUB. In the event KUB determines that changed Seasonal Periods are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed periods, and KUB shall promptly notify customer.

## Determination of Demand

KUB shall meter the demands in kW of all customers served under this rate schedule. The metered demand for any month shall be the highest average during any 30-consecutive-minute period beginning or ending on a clock hour of the month of the load metered in kW, and such amount shall be used as the billing demand, except that the billing demand for any month shall in no case be less than 110% of the sum of (1) 30 percent of the first 5,000 kW and (2) 40 percent of any kW in excess of 5,000 kW of the higher of the currently effective contract demand or the highest billing demand established during the preceding 12 months.

### Minimum Bill

The monthly bill under this rate schedule, excluding any facilities rental charges and any reactive charges, shall not be less than the sum of (1) the base customer charge and administrative charge, (2) the base demand charge, as adjusted (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applied to the customer's billing demand, and (3) the base energy charge, as adjusted, applied to the customer's energy takings.

KUB may require minimum bills higher than those stated above.

### Contract Requirement

KUB shall require contracts for all service provided under this rate schedule. The contract shall be for an initial term of at least five years and any renewals or extensions of the initial contract shall be for a term of at least one year; after ten years of service, any such contract for the renewal or extension of service may provide for termination upon not less than four months' notice. The customer shall contract for its maximum requirements, which shall not exceed the amount of power capable of being used by customer, and KUB shall not be obligated to supply power in greater amount at any time than the customer's currently effective contract demand. If the customer uses any power other than that supplied by KUB under this rate schedule, the contract may include other special provisions. The rate schedule in any power contract shall be subject to adjustment, modification, change, or replacement from time to time as approved by the Board.

After having received service for at least one year under this rate schedule, the customer, subject to appropriate amendments in its power contract with KUB, may receive service under the Manufacturing Service Rate - Schedule MSB. In such case the term of the power contract shall remain the same and the onpeak contract demand for service under the Manufacturing Service Rate – Schedule MSB shall not be less than the contract demand in effect when service was taken under this rate schedule.

### Single-Point Delivery

The charges under this rate schedule are based upon the supply of service through a single delivery point, and at a single voltage. If service is supplied to the same customer through more than one point of delivery or at different voltages, the supply of service at each delivery point and at each different voltage shall be separately metered and billed.

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

# *SEASONAL DEMAND AND ENERGY MANUFACTURING SERVICE RATE SCHEDULE SMSC*

## Availability

This rate, subject to availability from TVA, shall be available for firm electric power requirements where (a) a customer's currently effective contract demand is greater than 15,000 kW but not more than 25,000 kW and (b) the major use of electricity is for activities conducted at the delivery point serving that customer which are classified with a 2-digit Standard Industrial Classification Code between 20 and 39, inclusive, or classified with 2002 North American Industry Classification System (NAICS) code 5181, or 2007 NAICS codes 5182, 522320, and 541214.

Prior to initially taking any service under this schedule, and from time to time thereafter as may be required by KUB, a customer shall certify to KUB that it meets the requirements set forth in condition (b) above. The certification form to be used shall be furnished by KUB to the customer, and signed and promptly returned by the customer to KUB. Further, such customer shall promptly certify any change in the status of any of the information contained in the certification form to Distributor.

Service during any period for which a customer does not meet the eligibility requirements set forth in condition (b) above will be made available by KUB under, and billed in accordance with, the applicable General Power schedule.

Prior to participation in this rate, contract amendments may be required for continued participation in certain other programs and rate overlays as determined at KUB's sole discretion.

## Character of Service

Alternating current, single- or three-phase, 60 hertz. Power shall be delivered at a transmission voltage of 161 kV or, if such transmission voltage is not available, at the highest voltage available in the vicinity, unless at the customer's request a lower standard voltage is agreed upon.

## Base Charges

| | |
|---|---|
| Customer Charge: | $1,500 per delivery point per month |
| Administrative Charge: | $700 per delivery point per month |
| Demand Charge: | |
| Summer Period - | $17.32 per kW per month of the customer's billing demand, plus<br>$17.32 per kW per month of the amount, if any, by which the customer's billing demand exceeds its contract demand |
| Winter Period - | $14.17 per kW per month of the customer's billing demand, plus |

$14.17 per kW per month of the amount, if any, by which the customer's billing demand exceeds its contract demand

Transition Period - $11.00 per kW per month of the customer’s billing demand, plus
$11.00 per kW per month of the amount, if any, by which the customer's billing demand exceeds its contract demand

Energy Charge:
Summer Period - 4.294¢ per kWh per month
Winter Period - 3.812¢ per kWh per month
Transition Period - 3.696¢ per kWh per month

### Adjustment

Charges under this rate schedule may be increased or decreased to reflect changes in purchased power costs as determined by any purchased power adjustment adopted by the Board.

### Facilities Rental Charge

There shall be no facilities rental charge under this rate schedule for delivery at bulk transmission voltage levels of 161 kV or higher. For delivery at less than 161 kV, there shall be added to the customer's bill a facilities rental charge. This charge shall be 37 cents per kW per month except for delivery at voltages below 46 kV, in which case the charge shall be 97 cents per kW per month for the first 10,000 kW and 76 cents per kW per month for the excess over 10,000 kW. Such charge shall be applied to the higher of (1) the highest billing demand established during the latest 12-consecutive-month period or (2) the customer's currently effective contract demand and shall be in addition to all other charges under this rate schedule, including minimum bill charges.

### Reactive Demand Charges

If the reactive demand (in kVAR) is lagging during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer’s highest metered demand occurs, there shall be added to the customer’s bill a reactive charge of $1.46 per kVAR of the amount, if any, by which the reactive demand exceeds 33 percent of such metered demand. If the reactive demand (in kVAR) is leading during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer’s lowest metered demand (excluding any metered demands which are less than 25 percent of the highest metered demand) occurs, there shall be added to the customer’s bill a reactive charge of $1.14 per kVAR of the amount of reactive demand. Such charges shall be in addition to all other charges under this rate schedule, including minimum bill charges.

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## Determination of Seasonal Periods

Summer Period shall mean the June, July, August, and September billing months. Winter Period shall mean the December, January, February, and March billing months. Transition Period shall mean the April, May, October, and November billing months. The Seasonal Periods under this rate schedule are subject to change by KUB. In the event KUB determines that changed Seasonal Periods are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed periods, and KUB shall promptly notify customer.

## Determination of Demand

KUB shall meter the demands in kW of all customers served under this rate schedule. The metered demand for any month shall be the highest average during any 30-consecutive-minute period beginning or ending on a clock hour of the month of the load metered in kW, and such amount shall be used as the billing demand, except that the billing demand for any month shall in no case be less than 110% of the sum of (1) 30 percent of the first 5,000 kW, (2) 40 percent of the next 20,000 kW, and (3) 50 percent of any kW in excess of 25,000 kW of the higher of the currently effective contract demand or the highest billing demand established during the preceding 12 months.

## Minimum Bill

The monthly bill under this rate schedule, excluding any facilities rental charges and any reactive charges, shall not be less than the sum of (1) the base customer charge and administrative charge, (2) the base demand charge, as adjusted (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applied to the customer's billing demand, and (3) the base energy charge, as adjusted, applied to the customer's energy takings.

KUB may require minimum bills higher than those stated above.

## Contract Requirement

KUB shall require contracts for all service provided under this rate schedule. The contract shall be for an initial term of at least five years and any renewals or extensions of the initial contract shall be for a term of at least one year; after ten years of service, any such contract for the renewal or extension of service may provide for termination upon not less than four months' notice. The customer shall contract for its maximum requirements, which shall not exceed the amount of power capable of being used by customer, and KUB shall not be obligated to supply power in greater amount at any time than the customer's currently effective contract demand. If the customer uses any power other than that supplied by KUB under this rate schedule, the contract may include other special provisions. The rate schedule in any power contract shall be subject to adjustment, modification, change, or replacement from time to time as approved by the Board.

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After having received service for at least one year under this rate schedule, the customer, subject to appropriate amendments in its power contract with KUB, may receive service under the Manufacturing Service Rate - Schedule MSC. In such case the term of the power contract shall remain the same and the onpeak contract demand for service under the Manufacturing Service Rate – Schedule MSC shall not be less than the contract demand in effect when service was taken under this rate schedule.

### Single-Point Delivery

The charges under this rate schedule are based upon the supply of service through a single delivery point, and at a single voltage. If service is supplied to the same customer through more than one point of delivery or at different voltages, the supply of service at each delivery point and at each different voltage shall be separately metered and billed.

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

## *SEASONAL DEMAND AND ENERGY MANUFACTURING SERVICE RATE SCHEDULE SMSD*

### Availability

This rate, subject to availability from TVA, shall be available for firm electric power requirements where (a) a customer's currently effective contract demand is greater than 25,000 kW and (b) the major use of electricity is for activities conducted at the delivery point serving that customer which are classified with a 2-digit Standard Industrial Classification Code between 20 and 39, inclusive, or classified with 2002 North American Industry Classification System (NAICS) code 5181, or 2007 NAICS codes 5182, 522320, and 541214.

Prior to initially taking any service under this schedule, and from time to time thereafter as may be required by KUB, a customer shall certify to KUB that it meets the requirements set forth in condition (b) above. The certification form to be used shall be furnished by KUB to the customer, and signed and promptly returned by the customer to KUB. Further, such customer shall promptly certify any change in the status of any of the information contained in the certification form to Distributor.

Service during any period for which a customer does not meet the eligibility requirements set forth in condition (b) above will be made available by KUB under, and billed in accordance with, the applicable General Power schedule.

Prior to participation in this rate, contract amendments may be required for continued participation in certain other programs and rate overlays as determined at KUB's sole discretion.

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## Character of Service

Alternating current, single or three-phase, 60 hertz. Power shall be delivered at a transmission voltage of 161 kV or, if such transmission voltage is not available, at the highest voltage available in the vicinity, unless at the customer's request a lower standard voltage is agreed upon.

## Base Charges

| | |
|---|---|
| Customer Charge: | $1,500 per delivery point per month |
| Administrative Charge: | $700 per delivery point per month |
| Demand Charge: | |
| Summer Period - | $20.41 per kW per month of the customer's billing demand, plus<br>$20.41 per kW per month of the amount, if any, by which the customer's billing demand exceeds its contract demand |
| Winter Period - | $17.24 per kW per month of the customer's billing demand, plus<br>$17.24 per kW per month of the amount, if any, by which the customer's billing demand exceeds its contract demand |
| Transition Period - | $14.09 per kW per month of the customer's billing demand, plus<br>$14.09 per kW per month of the amount, if any, by which the customer's billing demand exceeds its contract demand |
| Energy Charge: | |
| Summer Period - | 3.526¢ per kWh per month |
| Winter Period - | 3.140¢ per kWh per month |
| Transition Period - | 3.046¢ per kWh per month |

## Adjustment

Charges under this rate schedule may be increased or decreased to reflect changes in purchased power costs as determined by any purchased power adjustment adopted by the Board.

## Facilities Rental Charge

There shall be no facilities rental charge under this rate schedule for delivery at bulk transmission voltage levels of 161 kV or higher. For delivery at less than 161 kV, there shall be added to the customer's bill a facilities rental charge. This charge shall be 37 cents per kW per month except for delivery at voltages below 46 kV, in which case the charge shall be 97 cents per kW per month for the first 10,000 kW and 76 cents per kW per month for the excess over 10,000 kW. Such charge shall be applied to the higher of (1) the highest billing demand established during the latest 12-consecutive-month period or (2) the customer's currently effective contract demand and shall be in addition to all other charges under this rate schedule, including minimum bill charges.

### Reactive Demand Charges

If the reactive demand (in kVAR) is lagging during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's highest metered demand occurs, there shall be added to the customer's bill a reactive charge of $1.46 per kVAR of the amount, if any, by which the reactive demand exceeds 33 percent of such metered demand. If the reactive demand (in kVAR) is leading during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's lowest metered demand (excluding any metered demands which are less than 25 percent of the highest metered demand) occurs, there shall be added to the customer's bill a reactive charge of $1.14 per kVAR of the amount of reactive demand. Such charges shall be in addition to all other charges under this rate schedule, including minimum bill charges.

### Determination of Seasonal Periods

Summer Period shall mean the June, July, August, and September billing months. Winter Period shall mean the December, January, February, and March billing months. Transition Period shall mean the April, May, October, and November billing months. The Seasonal Periods under this rate schedule are subject to change by KUB. In the event KUB determines that changed Seasonal Periods are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed periods, and KUB shall promptly notify customer.

### Determination of Demand

KUB shall meter the demands in kW of all customers served under this rate schedule. The metered demand for any month shall be the highest average during any 30-consecutive-minute period beginning or ending on a clock hour of the month of the load metered in kW, and such amount shall be used as the billing demand, except that the billing demand for any month shall in no case be less than 110% of the sum of (1) 30 percent of the first 5,000 kW, (2) 40 percent of the next 20,000 kW, (3) 50 percent of the next 25,000 kW, (4) 60 percent of the next 50,000 kW, (5) 70 percent of the next 100,000 kW, (6) 80 percent of the next 150,000 kW, and (7) 85 percent of all kW in excess of 350,000 kW of the higher of the currently effective contract demand or the highest billing demand established during the preceding 12 months.

### Minimum Bill

The monthly bill under this rate schedule, excluding any facilities rental charges and any reactive charges, shall not be less than the sum of (1) the base customer charge and administrative charge, (2) the base demand charge, as adjusted (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applied to the customer's billing demand, and (3) the base energy charge, as adjusted, applied to the customer's energy takings.

KUB may require minimum bills higher than those stated above.

### Contract Requirement

KUB shall require contracts for all service provided under this rate schedule. The contract shall be for an initial term of at least five years and any renewals or extensions of the initial contract shall be for a term of at least five years; after ten years of service, any such contract for the renewal or extension of service may provide for termination upon not less than sixteen months' notice. The customer shall contract for its maximum requirements, which shall not exceed the amount of power capable of being used by customer, and KUB shall not be obligated to supply power in greater amount at any time than the customer's currently effective contract demand. If the customer uses any power other than that supplied by KUB under this rate schedule, the contract may include other special provisions. The rate schedule in any power contract shall be subject to adjustment, modification, change, or replacement from time to time as approved by the Board.

After having received service for at least one year under this rate schedule, the customer, subject to appropriate amendments in its power contract with KUB, may receive service under the Manufacturing Service Rate - Schedule MSD. In such case the term of the power contract shall remain the same and the onpeak contract demand for service under the Manufacturing Service Rate – Schedule MSD shall not be less than the contract demand in effect when service was taken under this rate schedule.

### Single-Point Delivery

The charges under this rate schedule are based upon the supply of service through a single delivery point, and at a single voltage. If service is supplied to the same customer through more than one point of delivery or at different voltages, the supply of service at each delivery point and at each different voltage shall be separately metered and billed.

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

## *LIGHT-EMITTING DIODE (LED) PILOT PROGRAM - SCHEDULE LED OUTDOOR LIGHTING*

### Pilot Program Description

The purpose of the LED Pilot Program is to enable a phased implementation of LED equipment on KUB's electric system. The LED Pilot Program will provide KUB and participating customers experience with LED technologies. The duration of the LED Pilot Program shall be determined by KUB in its sole discretion.

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## Pilot Program Availability

Service under the LED Pilot Program shall only be available for select outdoor (security) lighting facilities of governmental entities located in the KUB electric system service territory. Participation in the LED Pilot Program shall be on a voluntary basis. KUB reserves the right to limit the number of customers participating in the LED Pilot Program and/or to limit the extent of any customer's participation in the program.

## Pilot Program Charges – No Capital Contribution

The following charges are applicable to those customers participating in the LED Pilot Program, for whom the installed cost of facilities for providing service under the program has been borne by the electric system. The following charges are per LED fixture per month.

| LED Fixture Type | Facility Charge | Rated KWh | Energy Charge per kWh | Total Charge |
|---|---|---|---|---|
| LED - 150WE - Rectangular Head | $12.43 | 38 | $0.07847 | $15.41 |
| LED - 150WE - Cobra Head | $11.34 | 38 | $0.07847 | $14.32 |
| LED - 250WE - Rectangular Head | $14.95 | 57 | $0.07847 | $19.42 |
| LED - 250WE - Cobra Head | $13.62 | 57 | $0.07847 | $18.09 |

In the event a customer voluntarily elects to discontinue service under this program, the customer, at the sole discretion of KUB, shall be subject to a capital recovery charge to ensure appropriate cost recovery for the electric system.

## Pilot Program Charges – Capital Contribution

The following charges are applicable to those customers participating in the LED Pilot Program, for whom the installed cost of facilities providing service under the program has been borne by the customer. The following charges are per LED fixture per month.

| LED Fixture Type | Facility Charge | Rated kWh | Energy Charge per kWh | Total Charge |
|---|---|---|---|---|
| LED - 150WE - Rectangular Head | $5.36 | 38 | $0.07847 | $8.34 |
| LED - 150WE - Cobra Head | $5.23 | 38 | $0.07847 | $8.21 |
| LED - 250WE - Rectangular Head | $6.23 | 57 | $0.07847 | $10.70 |
| LED - 250WE - Cobra Head | $6.06 | 57 | $0.07847 | $10.53 |

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### Additional Facilities

The above charges are limited to service installed on a pole already in place. If the customer wishes to have the fixture installed at a location other than on a pole already in place, the customer shall pay an additional monthly charge of $3.00 per pole for additional poles required to serve the fixture from KUB's nearest available source.

### Adjustment

Charges under this rate schedule may be increased or decreased to reflect changes in purchased power costs as determined by any purchased power adjustment adopted by the Board.

### Lamp Replacements

Replacements of lamps and related glassware will be made in accordance with replacement policies of KUB.

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

## *DISCOUNT POWER – FIVE-MINUTE RESPONSE (5 MR) INTERRUPTIBLE POWER*

### Availability

KUB provides Five-Minute Response (5 MR) Interruptible Power to qualified general power users through its wholesale power supplier, the Tennessee Valley Authority (TVA), in accordance with the power supply contract between KUB and TVA.

5 MR shall be made available to qualified general power users pursuant to specific contractual arrangements between KUB and the customer (such contractual arrangements may be contained in one or more written instruments and are hereinafter sometimes referred to as the "Contract").

### Charges for 5 MR

All 5 MR-related charges shall be established in accordance with the Contract.

### Interruptibility

5MR furnished to a customer under the Contract shall be subject to interruption and to suspension of availability as provided for in the Contract.

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

## *DISCOUNT POWER – SIXTY-MINUTE RESPONSE (60 MR) INTERRUPTIBLE POWER*

### Availability

KUB provides Sixty-Minute Response (60 MR) Interruptible Power to qualified general power users through its wholesale power supplier, the Tennessee Valley Authority (TVA), in accordance with the power supply contract between KUB and TVA.

60 MR shall be made available to qualified general power users pursuant to specific contractual arrangements between KUB and the customer (such contractual arrangements may be contained in one or more written instruments and are hereinafter sometimes referred to as the "Contract").

### Charges for 60 MR

All 60 MR-related charges shall be established in accordance with the Contract.

### Interruptibility

60 MR furnished to a customer under the Contract shall be subject to interruption and to suspension of availability as provided for in the Contract.

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

## *TWO-PART REAL TIME PRICING (RTP)*

### Availability

KUB provides Two-Part Real Time Pricing (Two-Part RTP) to qualified general power users through its wholesale power supplier, the Tennessee Valley Authority (TVA), in accordance with the power supply contract between KUB and TVA.

Two-Part RTP shall be made available to qualified general power users pursuant to specific contractual arrangements between KUB and the customer (such contractual arrangements may be contained in one or more written instruments and are hereinafter sometimes referred to as the "Contract").

### Charges for Two-Part RTP

All Two-Part RTP charges shall be established in accordance with the Contract.

### Interruptibility

Two-Part RTP furnished to a customer under the Contract may be subject to interruption and to suspension of availability as provided for in the Contract.

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

## *INTERRUPTIBLE POWER 5 (IP5)*

### Availability

KUB provides Interruptible Power 5 (IP5) to qualified power users through its wholesale power supplier, the Tennessee Valley Authority (TVA), in accordance with the power supply contract between KUB and TVA.

IP5 shall be made available to qualified power users pursuant to specific contractual arrangements between KUB and the customer (such contractual arrangements may be contained in one or more written instruments and are hereinafter sometimes referred to as the "Contract").

### Charges for IP5

All IP5-related charges shall be established in accordance with the Contract.

### Interruptibility

IP5 furnished to a customer under the Contract shall be subject to interruption and to suspension of availability as provided for in the Contract.

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

## *INTERRUPTIBLE POWER 30 (IP30)*

### Availability

KUB provides Interruptible Power 30 (IP30) to qualified power users through its wholesale power supplier, the Tennessee Valley Authority (TVA), in accordance with the power supply contract between KUB and TVA.

IP30 shall be made available to qualified power users pursuant to specific contractual arrangements between KUB and the customer (such contractual arrangements may be contained in one or more written instruments and are hereinafter sometimes referred to as the "Contract").

### Charges for IP30

All IP30-related charges shall be established in accordance with the Contract.

### Interruptibility

IP30 furnished to a customer under the Contract shall be subject to interruption and to suspension of availability as provided for in the Contract.

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

## *START-UP AND TESTING POWER (STP)*

### Availability

KUB provides Start-up and Testing Power (STP) to qualified power users through its wholesale power supplier, the Tennessee Valley Authority (TVA), in accordance with the power supply contract between KUB and TVA.

STP shall be made available to qualified power users pursuant to specific contractual arrangements between KUB and the customer (such contractual arrangements may be contained in one or more written instruments and are hereinafter sometimes referred to as the "Contract").

### Charges for STP

All STP-related charges shall be established in accordance with the Contract.

### Interruptibility

STP furnished to a customer under the Contract shall be subject to interruption and to suspension of availability as provided for in the Contract.

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

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## HISTORIC CAPITALIZATION AND CUSTOMERS

### Electric Division Capitalization - Historic

| | Fiscal Year | (Net Assets) Accumulated Earnings | Revenue Bonds | Revenue Notes | Total Capitalization | Debt as % of Capitalization |
|---|---|---|---|---|---|---|
| Historical | 2012 | $ 289,790,306 | $ 158,870,000 | $ - | $ 448,660,306 | 35.41% |
| | 2013 | $ 300,996,474 | $ 186,510,000 | $ - | $ 487,506,474 | 38.26% |
| | 2014 | $ 312,984,264 | $ 178,940,000 | $ - | $ 491,924,264 | 36.38% |
| | 2015 | $ 323,687,365 | $ 247,055,000 | $ - | $ 570,742,365 | 43.29% |
| | 2016 | $ 334,567,844 | $ 237,985,000 | $ - | $ 572,552,844 | 41.57% |

### Electric Division Customers - Historic

(Measured by Bills Rendered)

| Historical Number of Customers | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|
| Residential | 173,362 | 173,846 | 175,146 | 177,550 | 179,100 |
| Small Commercial and Industrial | 20,458 | 20,727 | 20,430 | 19,463 | 19,454 |
| Large Commercial and Industrial | 2,907 | 2,869 | 2,854 | 2,847 | 2,864 |
| Outdoor Lighting | 930 | 914 | 952 | 992 | 1,425 |
| **Total** | **197,657** | **198,356** | **199,382** | **200,852** | **202,843** |

### Historic Electric Division Use

The following table shows historical figures for Knox County's population, the Electric Division's number of customers, and electric sales.

| Fiscal Year | Knox Co. Population | Number of Customers | Total Sales MWh |
|---|---|---|---|
| 1995 | 357,447 | 160,893 | 4,703,769 |
| 2000 | 382,032 | 177,201 | 5,210,716 |
| 2010 | 432,226 | 197,299 | 5,587,374 |
| 2012 | 441,311 | 197,657 | 5,397,117 |
| 2013 | 444,622 | 198,356 | 5,456,983 |
| 2014 | 448,644 | 199,382 | 5,535,230 |
| 2015 | 451,324 | 200,852 | 5,536,308 |
| 2016 | 451,324 | 202,843 | 5,350,657 |

# KNOXVILLE UTILITIES BOARD
## ELECTRIC DIVISION
### OPERATING STATISTICS
for the Fiscal Years ended on June 30

| **Revenues:** | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|
| Residential | $ 224,870,899 | $ 244,493,773 | $ 242,439,020 | $ 247,635,642 | $ 234,748,373 |
| Commercial | 42,262,802 | 45,486,773 | 45,892,309 | 45,928,833 | 44,633,880 |
| Industrial | 219,674,054 | 227,250,089 | 220,298,930 | 222,500,328 | 221,132,641 |
| Outdoor Lighting | 7,819,998 | 8,231,980 | 8,153,718 | 8,371,010 | 8,585,438 |
| **Total Sales Revenues** | $ 494,627,753 | $ 525,462,615 | $ 516,783,977 | $ 524,435,813 | $ 509,100,332 |
| Other Revenues | 11,426,034 | 9,425,591 | 11,048,814 | 8,770,032 | 12,268,870 |
| **Total Revenues** | $ 506,053,787 | $ 534,888,206 | $ 527,832,791 | $ 533,205,845 | $ 521,369,202 |
| **Electric Usage - MWh:** | | | | | |
| Residential | 2,344,358 | 2,436,697 | 2,499,987 | 2,505,079 | 2,341,289 |
| Commercial | 385,345 | 395,642 | 408,581 | 402,268 | 385,756 |
| Industrial | 2,609,259 | 2,566,669 | 2,569,046 | 2,571,186 | 2,564,889 |
| Outdoor Lighting | 58,154 | 57,976 | 57,616 | 57,775 | 58,723 |
| **Total Electric Usage** | 5,397,117 | 5,456,984 | 5,535,230 | 5,536,308 | 5,350,657 |
| **Number of Customers:** | | | | | |
| Residential | 173,362 | 173,846 | 175,146 | 177,550 | 179,100 |
| Commercial | 20,458 | 20,727 | 20,430 | 19,463 | 19,454 |
| Industrial | 2,907 | 2,869 | 2,854 | 2,847 | 2,864 |
| Outdoor Lighting | 930 | 914 | 952 | 992 | 1,425 |
| **Total Customers** | 197,657 | 198,356 | 199,382 | 200,852 | 202,843 |
| **Purchased Power:** | | | | | |
| MWh | 5,627,366 | 5,625,144 | 5,728,465 | 5,728,540 | 5,545,940 |
| Total Cost | $ 409,442,667 | $ 432,023,455 | $ 419,557,996 | $ 419,773,131 | $ 402,603,523 |
| Wholesale Power Cost as % of Sales | 82.78% | 82.22% | 81.19% | 80.04% | 79.08% |
| Electric System Peak (kW) | 1,246,398 | 1,246,398 | 1,312,699 | 1,328,313 | 1,328,313 |

# KNOXVILLE UTILITIES BOARD
## ELECTRIC DIVISION
### CONDENSED STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION
for the years ending on June 30

| | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|
| **Operating Revenues:** | $ 506,053,787 | $ 534,888,206 | $ 527,832,791 | $ 533,205,845 | $ 521,369,202 |
| **Operating Expenses:** | | | | | |
| Purchased power | $ 409,442,667 | $ 432,023,455 | $ 419,557,996 | $ 419,773,131 | $ 402,603,523 |
| Distribution | 29,123,344 | 30,914,192 | 32,904,889 | 34,407,647 | 33,062,072 |
| Customer service | 5,305,047 | 5,587,902 | 5,858,398 | 6,546,034 | 6,589,446 |
| Administrative and general | 13,954,120 | 13,021,407 | 13,350,746 | 13,821,576 | 14,856,340 |
| Provision for depreciation | 20,655,981 | 22,376,706 | 23,190,530 | 25,887,777 | 29,490,370 |
| Taxes and tax equivalents | 12,002,885 | 12,940,143 | 13,626,589 | 15,069,402 | 15,794,474 |
| **Total Operating Expenses** | $ 490,484,044 | $ 516,863,805 | $ 508,489,148 | $ 515,505,567 | $ 502,396,225 |
| Operating Income | $ 15,569,743 | $ 18,024,401 | $ 19,343,643 | $ 17,700,278 | $ 18,972,977 |
| **Non-Operating Revenues / Expenses:** | | | | | |
| Contribution in aid of Construction | $ 4,121,515 | $ 3,953,118 | $ 1,726,458 | $ 1,551,247 | $ 1,632,730 |
| Interest and dividend income | 501,903 | 370,800 | 289,857 | 322,222 | 549,060 |
| Interest Expense | (6,990,310) | (7,281,191) | (7,739,346) | (8,548,826) | (9,257,913) |
| Plant Costs Recovered | (4,121,515) | (3,953,118) | (1,726,458) | (1,551,247) | (1,632,730) |
| Other | (249,734) | (85,206) | (212,614) | 1,584,523 | 437,959 |
| **Total Non-Operating** | $ (6,738,141) | $ (6,995,597) | $ (7,662,103) | $ (6,642,081) | $ (8,270,894) |
| Change in Net Position before Capital Contributions | $ 8,831,602 | $ 11,028,804 | $ 11,681,540 | $ 11,058,197 | $ 10,702,083 |
| Capital Contributions | 301,720 | 177,364 | 306,250 | 11,611 | 178,396 |
| **Change in Net Position** | $ 9,133,322 | $ 11,206,168 | $ 11,987,790 | $ 11,069,808 | $ 10,880,479 |
| Beginning of Period | $ 280,656,984 | $ 289,790,306 | $ 300,996,474 | $ 312,984,264 | $ 323,687,365 |
| Adjustment | - | - | - | (366,707) | - |
| **Net Position** | | | | | |
| **End of period** | **$ 289,790,306** | **$ 300,996,474** | **$ 312,984,264** | **$ 323,687,365** | **$ 334,567,844** |

*Source:* The above amounts have been derived from the Annual Audited Financial Statements of the Knoxville Utilities Board - Electric Division and the Board's internal financial records should be read in conjunction therewith.

## OPERATING AND FINANCIAL HISTORY OF THE ELECTRIC DIVISION

### Sales in MWh

| Fiscal Year | Residential | Commercial | Industrial | Outdoor Lighting | Total |
|---|---|---|---|---|---|
| 2007 | 2,504,428 | 397,123 | 2,893,530 | 62,276 | 5,857,357 |
| 2008 | 2,550,312 | 399,161 | 2,936,301 | 62,902 | 5,948,677 |
| 2009 | 2,496,346 | 388,010 | 2,658,692 | 61,953 | 5,605,001 |
| 2010 | 2,528,987 | 397,074 | 2,600,123 | 61,191 | 5,587,375 |
| 2011 | 2,603,859 | 396,768 | 2,615,431 | 58,597 | 5,674,655 |
| 2012 | 2,344,358 | 385,345 | 2,609,259 | 58,154 | 5,397,117 |
| 2013 | 2,436,697 | 395,642 | 2,566,669 | 57,976 | 5,456,984 |
| 2014 | 2,499,987 | 408,581 | 2,569,046 | 57,616 | 5,535,230 |
| 2015 | 2,505,079 | 402,268 | 2,571,186 | 57,775 | 5,536,308 |
| 2016 | 2,341,289 | 385,756 | 2,564,889 | 58,723 | 5,350,657 |

### Total Operating Revenue

| Fiscal Year | Residential | Commercial | Industrial | Outdoor Lighting | Other | Total |
|---|---|---|---|---|---|---|
| 2007 | $ 191,389,412 | $ 34,678,982 | $ 185,778,982 | $ 7,064,923 | $ 8,163,335 | $ 427,075,634 |
| 2008 | 202,366,369 | 36,077,584 | 199,104,402 | 7,360,942 | 9,722,076 | 454,631,373 |
| 2009 | 232,762,006 | 40,568,610 | 220,399,634 | 8,078,626 | 7,742,640 | 509,551,516 |
| 2010 | 212,390,714 | 38,420,449 | 192,401,485 | 7,223,836 | 12,599,703 | 463,036,187 |
| 2011 | 246,186,288 | 43,080,853 | 219,150,525 | 7,791,710 | 5,372,583 | 521,581,959 |
| 2012 | 224,870,899 | 42,262,802 | 219,674,054 | 7,819,998 | 11,426,034 | 506,053,787 |
| 2013 | 244,493,773 | 45,486,773 | 227,250,089 | 8,231,980 | 9,425,591 | 534,888,206 |
| 2014 | 242,439,020 | 45,892,309 | 220,298,930 | 8,153,718 | 11,048,814 | 527,832,791 |
| 2015 | 247,635,642 | 45,928,833 | 222,500,328 | 8,371,010 | 8,770,032 | 533,205,845 |
| 2016 | 234,748,373 | 44,633,880 | 221,132,641 | 8,585,438 | 12,268,870 | 521,369,202 |

### Growth Rates for Key Operating Data

| | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 |
|---|---|---|---|---|---|
| Number of Customers | 0.59% | 0.35% | 0.52% | 0.74% | 0.99% |
| Total Sales (MWh) | -4.89% | 1.11% | 1.43% | 0.02% | -3.35% |
| Total Operating Revenues | -2.98% | 5.70% | -1.32% | 1.02% | -2.22% |

# TEN LARGEST ELECTRIC SYSTEM CUSTOMERS - 2016

The ten largest Electric System customers, as of June 30, 2016, in order of total sales generated are listed below. Those ten electric customers represent 15.14% of the total electric sales based on revenue and 19.70% of the total electric sales based on sales volume.

| | Customer | Consumption MWh | Electric Sales Revenue | Percent of Sales Revenue |
|---|---|---|---|---|
| 1. | University of Tennessee | 234,135 | $ 19,962,557 | 3.92% |
| 2. | Gerdau Ameristeel | 305,939 | $ 15,783,211 | 3.10% |
| 3. | Knox County Schools | 55,675 | $ 6,889,631 | 1.35% |
| 4. | KUB | 65,171 | $ 6,099,841 | 1.20% |
| 5. | City of Knoxville | 69,853 | $ 5,787,658 | 1.14% |
| 6. | University Health Systems | 72,133 | $ 5,705,379 | 1.12% |
| 7. | Cemex Inc | 95,149 | $ 5,444,429 | 1.07% |
| 8. | Knoxville HMA Holdings LLC | 55,120 | $ 4,610,480 | 0.91% |
| 9. | KEMET Foil Manufacturing LLC | 62,134 | $ 3,512,843 | 0.69% |
| 10. | K-VA-T Food Stores Inc | 38,697 | $ 3,264,236 | 0.64% |
| | **TOTAL** | **1,054,006** | **$ 77,060,265** | **15.14%** |

| | | |
|---|---|---|
| Total Electric Sales Revenue | | 509,100,332 |
| Top 10 as Percent of Total Electric Sales Revenue | | 15.14% |
| Total Electric Sales Volume (MWH) | 5,350,657 | |
| Top 10 as Percent of Total Electric Sales Volume | 19.70% | |

# KNOXVILLE UTILITIES BOARD
## ELECTRIC DIVISION
## BONDS OUTSTANDING

The following table shows the outstanding bond indebtedness of the Electric Division.

| Amount Issued | Series | Due Date | Interest Rates | Outstanding Debt (1) and (2) |
|---|---|---|---|---|
| $ 38,710,000 | Electric System Revenue Refunding Bonds, Series W-2005 | 07-01-27 | Fixed | $ 29,480,000 |
| 40,000,000 | Electric System Revenue Bonds, Series Y-2009 | 07-01-18 | Fixed | 5,275,000 |
| 30,000,000 | (3) Electric System Revenue Bonds, Series Z-2010 (Federally Taxable Build America Bonds) | 07-01-30 | Fixed | 23,920,000 |
| 36,815,000 | Electric System Revenue Refunding Bonds, Series AA-2012 | 07-01-29 | Fixed | 33,850,000 |
| 35,000,000 | Electric System Revenue Bonds, Series BB-2012 | 07-01-42 | Fixed | 33,225,000 |
| 9,660,000 | Electric System Revenue Refunding Bonds, Series CC-2013 | 07-01-31 | Fixed | 9,485,000 |
| 40,000,000 | Electric System Revenue Bonds, Series DD-2014 | 07-01-44 | Fixed | 39,325,000 |
| 28,550,000 | Electric System Revenue Refunding Bonds, Series EE-2015 | 07-01-29 | Fixed | 28,425,000 |
| 35,000,000 | Electric System Revenue Bonds, Series FF-2015 | 07-01-45 | Fixed | 35,000,000 |
| 40,000,000 | Electric System Revenue Bonds, Series GG-2016 (Issued 8-5-2016) | 07-01-46 | Fixed | 40,000,000 |
| $ 333,735,000 | **TOTAL DEBT (As of June 30, 2016)** | | | $ 277,985,000 |
| $ 26,200,000 | Electric System Revenue Refunding Bonds, Series HH-2017 | 07-01-27 | Fixed | $ 26,200,000 |
| (38,710,000) | Less: Bonds Being Refunded (Series W-2005) | | | (25,525,000) |
| $ 321,225,000 | **TOTAL INDEBTEDNESS** | | | $ 278,660,000 |

**NOTES:**

(1) The above figures do not include short-term notes outstanding, if any. For more information, see the notes to the Financial Statements in the FINANCIAL STATEMENTS included herein.

(2) The Electric System paid $10,110,000 of principal and $4,628,956.27 of interest on July 1, 2016 for the Fiscal Year Ending June 30, 2017.

(3) The original federal subsidy of 35.0% on the Electric System Revenue Bonds, Series Z-2010 (Federally Taxable Build America Bonds) has been reduced by 6.8% for the federal fiscal year ending September 30, 2016 and by 6.9% for the federal fiscal year ending September 30, 2017 as a result of the sequestration by the Budget Control Act of 2011. After October 1, 2017, the sequestration rate will be subject to change.

# KNOXVILLE UTILITIES BOARD
## ELECTRIC DIVISION
### DEBT SERVICE REQUIREMENTS

| Fiscal | Outstanding Fiscal Year Debt Service on Bonds as of August 05, 2016 | | | | Estimated Electric System Revenue Refunding Bonds, Series HH-2017 | | | % Principal Repaid on Series | Less: Bonds Being Refunded or Defeased | | | TOTAL DEBT SERVICE (1) & (2) | | | | % Principal Repaid on |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | Principal | Interest | Est. Rebate (3) | Total | Principal | Interest (4) | Total | HH-2017 Bonds | Principal | Interest | Total | Principal | Interest | Est Rebate (3) | Total | All Debt |
| 2017 | $ 10,110,000 | $ 9,563,503 | $ (429,072) | $ 19,244,432 | $ - | $ - | $ - | 0.00% | - | - | - | $ 10,110,000 | $ 9,563,503 | $ (429,072) | $ 19,244,432 | 3.63% |
| 2018 | 11,290,000 | 9,873,765 | (413,154) | 20,750,611 | 440,000 | 427,014 | 867,014 | | - | (1,099,206) | (1,099,206) | 11,730,000 | 9,201,572 | (413,154) | 20,518,418 | |
| 2019 | 11,780,000 | 9,397,479 | (395,055) | 20,782,424 | 2,335,000 | 581,343 | 2,916,343 | | (2,095,000) | (1,057,306) | (3,152,306) | 12,020,000 | 8,921,515 | (395,055) | 20,546,460 | |
| 2020 | 12,255,000 | 8,903,494 | (374,749) | 20,783,746 | 2,380,000 | 543,005 | 2,923,005 | | (2,185,000) | (970,341) | (3,155,341) | 12,450,000 | 8,476,159 | (374,749) | 20,551,410 | |
| 2021 | 12,750,000 | 8,373,227 | (352,574) | 20,770,653 | 2,420,000 | 499,190 | 2,919,190 | 28.91% | (2,275,000) | (878,353) | (3,153,353) | 12,895,000 | 7,994,064 | (352,574) | 20,536,490 | 21.25% |
| 2022 | 13,335,000 | 7,807,938 | (328,755) | 20,814,183 | 2,465,000 | 450,318 | 2,915,318 | | (2,370,000) | (781,069) | (3,151,069) | 13,430,000 | 7,477,186 | (328,755) | 20,578,431 | |
| 2023 | 13,860,000 | 7,228,333 | (303,151) | 20,785,182 | 2,520,000 | 395,455 | 2,915,455 | | (2,470,000) | (678,219) | (3,148,219) | 13,910,000 | 6,945,569 | (303,151) | 20,552,418 | |
| 2024 | 14,420,000 | 6,627,923 | (275,699) | 20,772,224 | 2,580,000 | 335,515 | 2,915,515 | | (2,580,000) | (569,294) | (3,149,294) | 14,420,000 | 6,394,144 | (275,699) | 20,538,445 | |
| 2025 | 15,020,000 | 6,038,967 | (246,241) | 20,812,726 | 2,645,000 | 270,170 | 2,915,170 | | (2,695,000) | (453,903) | (3,148,903) | 14,970,000 | 5,855,234 | (246,241) | 20,578,993 | |
| 2026 | 12,955,000 | 5,508,680 | (214,613) | 18,249,067 | 2,725,000 | 198,998 | 2,923,998 | 78.28% | (2,820,000) | (333,263) | (3,153,263) | 12,860,000 | 5,374,415 | (214,613) | 18,019,802 | 46.22% |
| 2027 | 13,400,000 | 5,015,801 | (180,738) | 18,235,063 | 2,800,000 | 123,010 | 2,923,010 | | (2,950,000) | (205,200) | (3,155,200) | 13,250,000 | 4,933,611 | (180,738) | 18,002,873 | |
| 2028 | 13,920,000 | 4,499,735 | (144,643) | 18,275,092 | 2,890,000 | 41,905 | 2,931,905 | | (3,085,000) | (69,413) | (3,154,413) | 13,725,000 | 4,472,228 | (144,643) | 18,052,584 | |
| 2029 | 11,230,000 | 4,036,806 | (106,308) | 15,160,498 | - | - | - | | - | - | - | 11,230,000 | 4,036,806 | (106,308) | 15,160,498 | |
| 2030 | 11,600,000 | 3,629,050 | (65,505) | 15,163,545 | - | - | - | | - | - | - | 11,600,000 | 3,629,050 | (65,505) | 15,163,545 | |
| 2031 | 7,575,000 | 3,267,981 | (22,225) | 10,820,756 | - | - | - | 100.00% | - | - | - | 7,575,000 | 3,267,981 | (22,225) | 10,820,756 | 66.81% |
| 2032 | 5,735,000 | 3,022,381 | - | 8,757,381 | - | - | - | | - | - | - | 5,735,000 | 3,022,381 | - | 8,757,381 | |
| 2033 | 5,200,000 | 2,843,813 | - | 8,043,813 | - | - | - | | - | - | - | 5,200,000 | 2,843,813 | - | 8,043,813 | |
| 2034 | 5,400,000 | 2,669,281 | - | 8,069,281 | - | - | - | | - | - | - | 5,400,000 | 2,669,281 | - | 8,069,281 | |
| 2035 | 5,600,000 | 2,487,281 | - | 8,087,281 | - | - | - | | - | - | - | 5,600,000 | 2,487,281 | - | 8,087,281 | |
| 2036 | 5,825,000 | 2,302,828 | - | 8,127,828 | - | - | - | 100.00% | - | - | - | 5,825,000 | 2,302,828 | - | 8,127,828 | 76.77% |
| 2037 | 6,050,000 | 2,113,500 | - | 8,163,500 | - | - | - | | - | - | - | 6,050,000 | 2,113,500 | - | 8,163,500 | |
| 2038 | 6,275,000 | 1,910,125 | - | 8,185,125 | - | - | - | | - | - | - | 6,275,000 | 1,910,125 | - | 8,185,125 | |
| 2039 | 6,500,000 | 1,699,313 | - | 8,199,313 | - | - | - | | - | - | - | 6,500,000 | 1,699,313 | - | 8,199,313 | |
| 2040 | 6,750,000 | 1,479,813 | - | 8,229,813 | - | - | - | | - | - | - | 6,750,000 | 1,479,813 | - | 8,229,813 | |
| 2041 | 7,000,000 | 1,245,250 | - | 8,245,250 | - | - | - | 100.00% | - | - | - | 7,000,000 | 1,245,250 | - | 8,245,250 | 88.46% |
| 2042 | 7,250,000 | 1,000,031 | - | 8,250,031 | - | - | - | | - | - | - | 7,250,000 | 1,000,031 | - | 8,250,031 | |
| 2043 | 7,550,000 | 745,156 | - | 8,295,156 | - | - | - | | - | - | - | 7,550,000 | 745,156 | - | 8,295,156 | |
| 2044 | 5,725,000 | 511,656 | - | 6,236,656 | - | - | - | | - | - | - | 5,725,000 | 511,656 | - | 6,236,656 | |
| 2045 | 5,925,000 | 298,875 | - | 6,223,875 | - | - | - | | - | - | - | 5,925,000 | 298,875 | - | 6,223,875 | |
| 2046 | 3,750,000 | 124,000 | - | 3,874,000 | - | - | - | 100.00% | - | - | - | 3,750,000 | 124,000 | - | 3,874,000 | 99.30% |
| 2047 | 1,950,000 | 29,250 | - | 1,979,250 | - | - | - | 100.00% | - | - | - | 1,950,000 | 29,250 | - | 1,979,250 | 100.00% |
| | **$ 277,985,000** | **$ 124,255,235** | **$ (3,852,481)** | **$ 398,387,754** | **$ 26,200,000** | **$ 3,865,921** | **$ 30,065,921** | | **$ (25,525,000)** | **$ (7,095,566)** | **$ (32,620,566)** | **$ 278,660,000** | **$ 121,025,590** | **$ (3,852,481)** | **$ 395,833,109** | |

**NOTES:**

(1) The above figures do not include short-term notes outstanding, if any. For more information, see the notes to the Financial Statements in the FINANCIAL STATEMENTS included herein.

(2) The Electric System paid $10,110,000 of principal and $4,628,956.27 of interest on July 1, 2016 for the Fiscal Year Ending June 30, 2017.

(3) The original federal subsidy of 35.0% on the Electric System Revenue Bonds, Series Z-2010 (Federally Taxable Build America Bonds) has been reduced by 6.8% for the federal fiscal year ending September 30, 2016 and by 6.9% for the federal fiscal year ending September 30, 2017 as a result of the sequestration by the Budget Control Act of 2011. After October 1, 2017, the sequestration rate will be subject to change.

(4) Estimated Interest Rates. Estimated Average Coupon 2.54%.

# KNOXVILLE UTILITIES BOARD
# ELECTRIC DIVISION
## HISTORICAL DEBT COVERAGE ON OUTSTANDING ELECTRIC SYSTEM BONDS
For the Fiscal Years Ended June 30

The historical coverage for the actual debt service requirements and the projected maximum annual debt service requirements (FY 2019) of the Outstanding Bonds and the Series HH-2017 Bonds for June 30, 2012 through June 30, 2016 is set forth below.

| | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|
| Operating revenues | $ 506,053,787 | $ 534,888,206 | $ 527,832,791 | $ 533,205,845 | $ 521,369,202 |
| Operating expenses * | (457,825,178) | (481,546,956) | (471,672,029) | (474,548,388) | (457,111,381) |
| Net income before depreciation & taxes | $ 48,228,610 | $ 53,341,250 | $ 56,160,762 | $ 58,657,457 | $ 64,257,821 |
| Other revenue (Net) | 501,903 | 370,800 | 289,857 | 322,222 | 549,060 |
| FICA & Medicare Tax Expense | (1,496,062) | (1,656,801) | (1,721,551) | (1,759,421) | (1,894,298) |
| Income available for debt service | $ 47,234,450 | $ 52,055,249 | $ 54,729,068 | $ 57,220,258 | $ 62,912,583 |
| Actual annual debt service requirements on outstanding bonds | $ 13,762,442 | $ 13,408,457 | $ 14,975,114 | $ 15,080,450 | $ 19,192,916 |
| Coverage (Times) | 3.43 x | 3.88 x | 3.65 x | 3.79 x | 3.28 x |
| Maximum annual debt ** service requirements (FY 2019) on Outstanding Bonds and the Series HH-2017 Bonds | $ 20,941,515 | $ 20,941,515 | $ 20,941,515 | $ 20,941,515 | $ 20,941,515 |
| Coverage (Times) | 2.26 x | 2.49 x | 2.61 x | 2.73 x | 3.00 x |

* Excluding Provision for Depreciation and Taxes

** From Debt Service Requirements Chart.  Maximum debt excludes estimated BABS rebate.

**APPENDIX B-2**

# ELECTRIC DIVISION
# REPORT OF INDEPENDENT AUDITORS AND FINANCIAL STATEMENTS

Knoxville Utilities Board

# Electric Division

## Financial Statements and Supplemental Information
## June 30, 2016 and 2015

# Knoxville Utilities Board Electric Division
## Index
## June 30, 2016 and 2015

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# Report of Independent Auditors

Board of Commissioners
Electric Division of the Knoxville Utilities Board
Knoxville, Tennessee

We have audited the accompanying financial statements of the Electric Division (the Division) of the Knoxville Utilities Board, a component unit of the City of Knoxville, Tennessee, as of and for the years ended June 30, 2016 and 2015, and the related notes to the financial statements, which collectively comprise the Division's basic financial statements as listed in the index.

## Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

## Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Division's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Division's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

## Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Electric Division of the Knoxville Utilities Board as of June 30, 2016 and 2015, and the changes in financial position and cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Board of Commissioners
Electric Division of the Knoxville Utilities Board
Knoxville, Tennessee

**Other Matters**

*Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 3 through 24 and the required supplementary information on pages 52 through 54 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

*Other Information*

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Division's basic financial statements. The supplemental information on schedules 3 through 5, as listed on the index, are presented for purposes of additional analysis and are not a required part of the basic financial statements. The schedule of expenditures of federal awards and state financial assistance is presented for purposes of additional analysis as required by Title 2 U.S. *Code of Federal Regulations* (CFR) Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards*, and the State of Tennessee Comptroller of the Treasury Office and is also not a required part of the basic financial statements.

The schedule of expenditures of federal awards and state financial assistance is the responsibility of management and was derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the schedule of expenditures of federal awards and state financial assistance is fairly stated in all material respects in relation to the basic financial statements as a whole.

The supplemental information on schedules 3 through 5 have not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we do not express an opinion or provide any assurance on it.

**Other Reporting Required by Government Auditing Standards**

In accordance with *Government Auditing Standards*, we have also issued our report dated October 27, 2016, on our consideration of the Division's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Division's internal control over financial reporting and compliance.

Coulter & Justus, P.C.

Knoxville, Tennessee
October 27, 2016

Knoxville Utilities Board (KUB), comprised of the Electric Division, Gas Division, Water Division, and Wastewater Division (Divisions), is reported as a component unit enterprise fund in the financial statements of the City of Knoxville. KUB's responsibility is to oversee the purchase, production, distribution, and processing of electricity, natural gas, water, and wastewater services. A seven-member Board of Commissioners (Board) governs KUB. The Board has all powers to construct, acquire, expand, and operate the Divisions. It has full control and complete jurisdiction over the management and operation of the Divisions. The Electric Division (Division) provides services to certain customers in Knox County and in seven surrounding counties in East Tennessee. The Division's accounts are maintained in conformity with the Uniform System of Accounts of the Federal Energy Regulatory Commission and the Governmental Accounting Standards Board, as applicable. The financial statements present only the Electric Division and do not purport to, and do not, present fairly the consolidated financial position of Knoxville Utilities Board at June 30, 2016 and 2015, and the changes in its financial position for the years then ended in conformity with accounting principles generally accepted in the United States of America.

The Division's discussion and analysis is designed to (a) assist the reader in focusing on significant financial issues, (b) provide an overview of the Division's financial activity, (c) identify major changes in the Division's financial position, and (d) identify any financial concerns.

The Division's Management Discussion and Analysis (MD&A) focuses on the fiscal year ending June 30, 2016 activities, resulting changes and current known facts, and should be read in conjunction with the Division's financial statements.

## Electric Division Highlights

### System Highlights

KUB serves 202,843 electric customers over a 688 square mile service area and maintains 5,321 miles of service lines and 63 electric substations to provide 5.6 million megawatt hours to its customers annually.

KUB's electric system experienced a record peak in demand of 1,328 megawatt hours in February 2015. KUB's electric system had a strong year for reliability with only 1.82 hours of service interruption for the average customer in fiscal year 2016.

KUB has added 4,487 electric system customers over the past three years representing annual growth of less than one percent.

The typical residential customer's average monthly electric bill was $101.78 as of June 30, 2016, representing an increase of $0.49 or 0.5 percent compared to June 30, 2015. The increase in the monthly bill during fiscal year 2016 was the net result of the flow through of TVA wholesale rate adjustments, previously over recovered wholesale power costs and KUB's one percent electric rate increase, which added $1.00 to the monthly residential customer charge.

KUB's electric system was impacted by an ice storm event in February 2015 that resulted in a cost of $2 million to the system. KUB received $1.6 million in reimbursements in fiscal year 2016 from the Federal Emergency Management Agency (FEMA) to offset the cost of the 2015 event.

KUB's electric system was awarded the Diamond level designation by the American Public Power Association's (APPA) Reliable Public Power Provider (RP3) program, the highest level of recognition of the program.

## Century II Infrastructure Program

Century II is KUB's proactive long-range program to improve and maintain its electric, natural gas, water and wastewater systems for its customers. It includes the maintenance and asset replacement strategies for each utility system and establishes sustainable replacement cycles. Century II moves KUB into its second century of service by improving each system through sound planning, resource allocation, and continued, but accelerated, investment.

KUB's Century II programs were resumed in 2011, after a break due to the economic recession. At that time, the KUB Board of Commissioners endorsed a ten year funding plan for the Electric Division, which includes a combination of rate increases and debt issues to fully fund the electric system's Century II program.

In April 2014, KUB management provided the Board an updated assessment of the overall condition of each utility system, including a recommendation for annual rate increases for each division for the next three fiscal years.

In June 2014, the Board approved the proposed three annual rate increases for the Electric Division. The first and second rate increases went into effect in July 2014 and July 2015. In July 2016, the third and final rate increase will go into effect and will generate $5.2 million in additional annual Electric Division revenue.

In fiscal year 2015, KUB concluded the smart grid pilot project, of which a portion of the project was funded by a United States Department of Energy Smart Grid Investment Grant (SGIG). This grant was received by KUB in 2009 as part of the American Reinvestment and Recovery Act (ARRA). Based upon the success of that pilot, KUB formed a plan to move forward with a Century II Grid Modernization initiative, which includes advanced metering for all KUB customers, a telecommunication system linking critical KUB infrastructure, and an increased investment in automation technology to help operate KUB's energy and water distribution systems.

During the fiscal year, KUB replaced 2,208 poles, exceeding the target level of 2,000, and replaced 13.3 miles of underground electric cable while staying on track with Century II goals and within the Electric Division's total capital budget.

## Financial Highlights

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

The Division's net position during the year increased $10.9 million compared to an $11.1 million increase last fiscal year. A restatement to fiscal year 2014's net position based on a change in method of accounting for pension expense reduced the total net position by $0.4 million during fiscal year 2015. This change resulted in a net increase of $10.7 million in the Division's net position during fiscal year 2015.

Operating revenue decreased $11.8 million or 2.2 percent over the prior fiscal year. The decrease in operating revenue was the net result of additional revenue from KUB's one percent electric rate increase, the flow through of TVA rate adjustments, a 3.1 percent decline in total power sales, and the flow through of prior year over recovered purchase power costs to electric customers. KUB flows changes to wholesale power rates directly through to its retail electric rates via its Purchased Power Adjustment.

Seventy nine percent of Electric Division sales revenue was used to purchase electric power from TVA for the fiscal year ended June 30, 2016. Purchased power expense decreased $17.2 million compared to last year, due a very mild winter that resulted in a 3.1 percent decline in total power sales. Lower sales mitigated the impact of a 1.5 percent wholesale power rate increase from TVA.

Margin on electric sales (operating revenue less purchased power expense) increased $5.3 million or 4.7 percent, reflecting additional revenue from the KUB electric rate increases.

Operating expenses (excluding purchased power expense) increased $4.1 million or 4.2 percent. Depreciation expense increased $3.6 million or 13.9 percent. Taxes and tax equivalents were $0.7 million, or 4.8 percent, higher than the prior fiscal year. Operating and maintenance (O&M) expenditures decreased $0.3 million or 0.5 percent.

Interest income was $0.2 million more than the prior fiscal year. Interest expense increased $0.7 million or 8.3 percent, primarily due to the additional interest accrued on long-term bonds issued in August 2014 and April 2015.

Capital contributions increased $0.2 million, reflecting a higher level of electric system assets provided to KUB during the fiscal year.

Total plant assets (net) increased $30.5 million or 6.3 percent over the end of the last fiscal year reflecting pole replacements and other distribution system improvements as part of KUB's Century II electric program.

Long-term debt represented 41.6 percent of the Division's capital structure as of June 30, 2016, compared to 43.3 percent last year. Capital structure equals long-term debt (including the current and long-term portion of any revenue bonds and notes) plus net position.

The Division's bond covenants require a debt service coverage ratio of at least 1.2 times the maximum principal and interest payments over the life of the Division's outstanding bonds. Current year debt coverage for the fiscal year was 3.57. Maximum debt service coverage was 3.28.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

The Division's net position during the year increased $11.1 million compared to a $12 million increase last fiscal year. A restatement to the prior fiscal year's net position based on a change in method of accounting for pension expense reduced the total net position by $0.4 million during fiscal year 2015. This change resulted in a net increase of $10.7 million in the Division's net position.

Operating revenue increased $5.4 million or one percent over the prior fiscal year. The increase in operating revenue was the net result of additional revenue from KUB's one percent electric rate increase, the flow through of TVA rate adjustments and the flow through of prior year over recovered purchase power costs to electric customers. KUB flows changes to wholesale power rates directly through to its retail electric rates via its Purchased Power Adjustment.

Eighty-one percent of Electric Division sales revenue was used to purchase electric power from TVA for the fiscal year ended June 30, 2015. Purchased power expense increased $0.2 million compared to last year, due to a 1.5 percent wholesale power rate increase from TVA effective October 2014.

Margin on electric sales (operating revenue less purchased power expense) increased $5.2 million or 4.8 percent, reflecting additional revenue from the KUB electric rate increase.

Operating expenses (excluding purchased power expense) increased $6.8 million or 7.6 percent. Operating and maintenance (O&M) expenditures increased $2.7 million or 5.1 percent. Depreciation expense increased $2.7 million or 11.6 percent. Taxes and tax equivalents were $1.4 million, or 10.6 percent, higher than the prior fiscal year.

Interest income was consistent with the prior fiscal year. Interest expense increased $0.8 million or 10.5 percent, primarily due to the additional interest accrued on long-term bonds issued in August 2014 and April 2015.

Capital contributions decreased $0.3 million, reflecting fewer electric system assets provided to KUB during the fiscal year.

Total plant assets (net) increased $35.3 million or 7.9 percent over the end of the last fiscal year reflecting pole replacements and other distribution system improvements as part of KUB's Century II electric program.

KUB sold two series of electric system revenue bonds during fiscal year 2015 for the purpose of funding electric system capital improvements totaling $75 million. The $35 million bond issue in April 2015 was accelerated to take advantage of the low interest rate environment which impacted the Division's debt rate and debt service coverage levels for fiscal year 2015. Long-term debt represented 43.3 percent of the Division's capital structure as of June 30, 2015, compared to 36.4 percent last year. Capital structure equals long-term debt (including the current and long-term portion of any revenue bonds and notes) plus net position.

The Division's bond covenants require a debt service coverage ratio of at least 1.2 times the maximum principal and interest payments over the life of the Division's outstanding bonds. Current year debt coverage for the fiscal year was 3.8. Maximum debt service coverage was 3.06.

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## Knoxville Utilities Board Electric Division - Financial Statements

The Division's financial performance is reported under three basic financial statements: the Statement of Net Position; the Statement of Revenues, Expenses and Changes in Net Position; and the Statement of Cash Flows.

### Statement of Net Position

The Division reports its assets, deferred outflows of resources, liabilities, deferred inflows of resources and net position in the Statement of Net Position. Assets are classified as current, restricted, electric plant in service, or other assets.

Liabilities are classified as current, other, or long-term debt. Net position is classified as net investment in capital assets; restricted; or unrestricted. Net position tells the user what the Division has done with its accumulated earnings, not just the balance.

Net investment in capital assets is the net book value of all capital assets less the outstanding balances of debt used to acquire, construct, or improve those assets.

Restricted net position includes assets that have been limited to specific uses by the Division's bond covenants or through resolutions passed by the KUB Board.

Unrestricted net position is a residual classification; the amount remaining after reporting net position as either invested in capital or restricted is reported there.

### Statement of Revenues, Expenses and Changes in Net Position

The Division reports its revenues and expenses (both operating and non-operating) on the Statement of Revenues, Expenses and Changes in Net Position. In addition, any capital contributions or assets donated by developers are reported on this statement.

Total revenue less total expense equals the change in net position for the reporting period. Net position at the beginning of the period is increased or decreased, as applicable, by the change in net position for the reporting period.

The change in net position for the reporting period is added to the net position segment of the Statement of Net Position.

### Statement of Cash Flows

The Division reports its cash flows from operating activities, capital and related financing activities, and investing activities on its Statement of Cash Flows. This statement tells the user the Division's sources and uses of cash during the reporting period.

The statement indicates the Division's beginning cash balance and ending cash balance and how it was either increased or decreased during the reporting period.

The statement also reconciles cash flow back to operating income as it appears on the Statement of Revenues, Expenses and Changes in Net Position.

## Condensed Financial Statements

## Statement of Net Position

The following table reflects the condensed Statement of Net Position for the Electric Division compared to the prior year and the year preceding the prior year.

### Statements of Net Position
### As of June 30

| *(in thousands of dollars)* | **2016** | **2015** | **2014** |
|---|---|---|---|
| Current, restricted and other assets | $ 157,010 | $ 190,359 | $ 151,636 |
| Capital assets, net | 511,260 | 480,798 | 445,495 |
| Deferred outflows of resources | 8,544 | 5,411 | 1,415 |
| Total assets and deferred outflows of resources | 676,814 | 676,568 | 598,546 |
| Current and other liabilities | 103,918 | 101,489 | 108,777 |
| Long-term debt outstanding | 237,603 | 248,330 | 176,785 |
| Deferred inflows of resources | 726 | 3,062 | - |
| Total liabilities and deferred inflows of resources | 342,247 | 352,881 | 285,562 |
| Net position | | | |
| Net investment in capital assets | 268,462 | 228,768 | 262,995 |
| Restricted | 10,120 | 9,091 | 7,956 |
| Unrestricted | 55,985 | 85,828 | 42,033 |
| Total net position | $ 334,567 | $ 323,687 | $ 312,984 |

## Normal Impacts on Statement of Net Position

The following is a description of activities which will normally impact the comparability of the Statement of Net Position presentation.

- Change in net position (from Statement of Revenues, Expenses and Changes in Net Position): impacts (increase/decrease) current and other assets and/or capital assets and unrestricted net position.

- Issuing debt for capital: increases deferred outflows of resources and long-term debt.

- Spending debt proceeds on new capital: reduces current assets and increases capital assets.

- Spending of non-debt related current assets on new capital: (a) reduces current assets and increases capital assets and (b) reduces unrestricted net position and increases net investment in capital assets.

- Principal payment on debt: (a) reduces current and other assets and reduces long-term debt and (b) reduces unrestricted net position and increases net investment in capital assets.

- Reduction of capital assets through depreciation: reduces capital assets and net investment in capital assets.

## Impacts and Analysis

## Current, Restricted and Other Assets

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Current, restricted and other assets decreased $33.3 million or 17.5 percent. The decrease in current assets reflects the utilization of $20.5 million in bond proceeds, a decrease in general fund cash of $9.7 million and a decrease in accounts receivable of $4.1 million.

KUB under recovered $1.4 million in purchased power costs from its customers through its Purchased Power Adjustment mechanism in fiscal year 2016, as compared to a $0.5 million over recovery in fiscal year 2015. This under recovery of costs will be collected from customers next fiscal year through adjustments to rates via the Purchased Power Adjustment.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Current, restricted and other assets increased $38.7 million or 25.5 percent. The increase in current assets reflects $20.5 million more in unused bond proceeds, an increase in general fund cash of $13 million, and a $3.2 million rise in operating contingency reserves.

## Capital Assets

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Capital assets, net of depreciation, increased $30.5 million or 6.3 percent. Major capital expenditures included $25.1 million for distribution system improvements, $7.7 million for pole replacements, $7 million for installation or replacement of electric services, $4.9 million for Grid Modernization, $4.1 million for upgrades to various information systems, $1.8 million for replacement and relocation of electric system assets to accommodate Tennessee Department of Transportation (TDOT) highway improvement projects, $1.4 million for trucks and equipment, and $1.4 million for street lighting improvements.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Capital assets, net of depreciation, increased $35.3 million or 7.9 percent. Major capital expenditures included $28.7 million for distribution system improvements, $6 million for pole replacements, $5.9 million for installation or replacement of electric services, $4 million for a new substation and $4 million for information system upgrades.

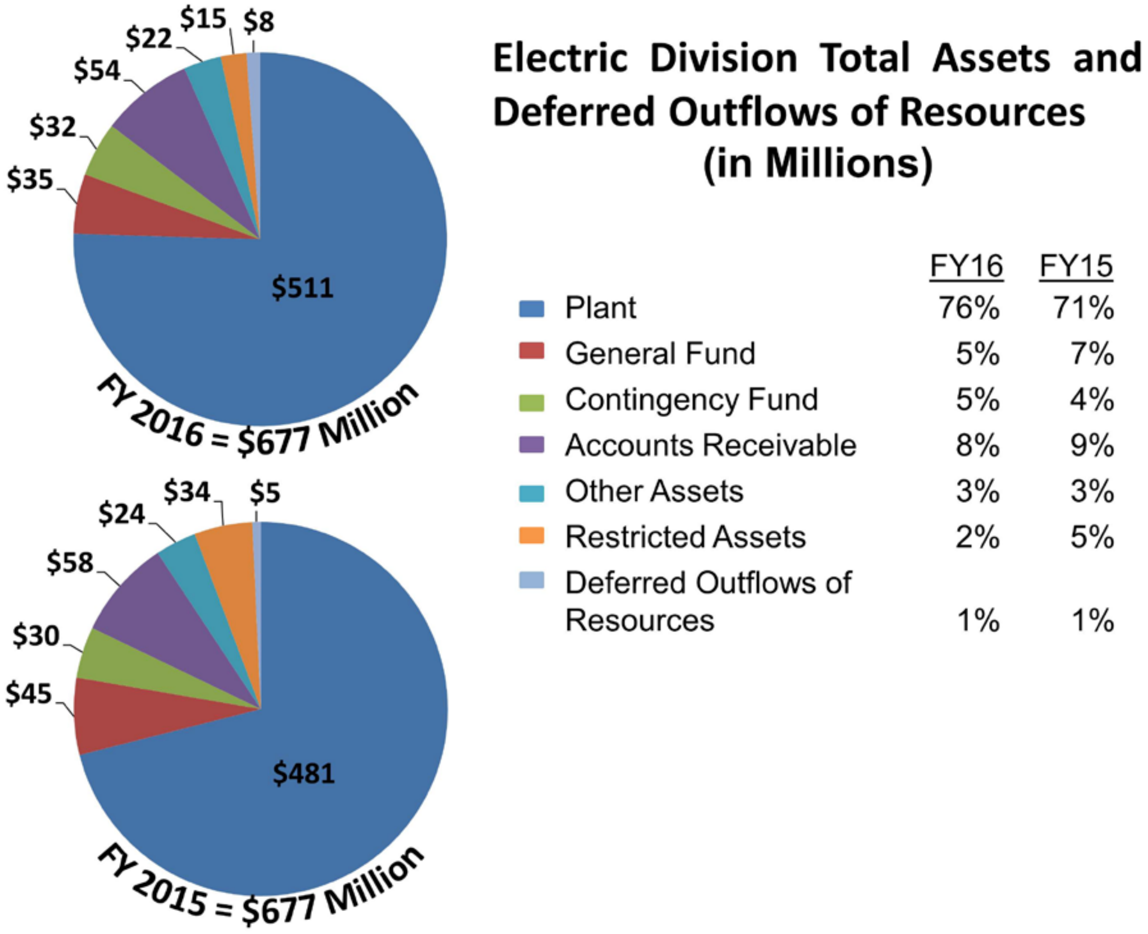
## Deferred Outflows of Resources

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Deferred outflows of resources increased $3.1 million compared to the prior fiscal year primarily due to an increase in pension outflow of $3.5 million.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Deferred outflows of resources increased $4 million compared to the prior fiscal year, reflecting a $2.5 million increase in the amortization of deferred losses on bonds primarily attributable to bonds refunded in April 2015. Pension outflow increased $1.5 million.



**Electric Division Total Assets and Deferred Outflows of Resources (in Millions)**

| | FY16 | FY15 |
|---|---|---|
| 🟦 Plant | 76% | 71% |
| 🟥 General Fund | 5% | 7% |
| 🟩 Contingency Fund | 5% | 4% |
| 🟪 Accounts Receivable | 8% | 9% |
| 🟦 Other Assets | 3% | 3% |
| 🟧 Restricted Assets | 2% | 5% |
| 🟦 Deferred Outflows of Resources | 1% | 1% |

## Current and Other Liabilities

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Current and other liabilities increased $2.4 million or 2.4 percent, due in part to an actuarially determined net pension obligation of $2.4 million recognized in fiscal year 2016. Accounts payable decreased $1.9 million, which was offset by a $1.7 million increase in accrued expenses. The outstanding balance on TVA conservation loans declined by $1.9 million, as KUB ceased issuance of any new loans in fiscal year 2016.

KUB over recovered $0.5 million in wholesale power costs from its customers in fiscal year 2015, as compared to a $1.4 million under recovery in fiscal year 2016. This over recovery of costs was flowed back to KUB's electric customers during fiscal year 2016 through adjustments to rates via the Purchased Power Adjustment.

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### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Current and other liabilities decreased $7.3 million or 6.7 percent, due in part to a $4.1 million decrease in accrued expenses from recognizing a $2.9 million net pension asset during the fiscal year compared to a $3 million pension contribution liability in the prior year. Accounts payable declined $1.4 million. The outstanding balance on TVA conservation loans fell $0.5 million. KUB over recovered $0.5 million in purchased power costs from its customers in fiscal year 2015, which was $3.9 million less than last fiscal year. The $0.5 million over recovery in fiscal year 2015 will be flowed back to KUB's electric customers next fiscal year through adjustments to electric rates via the Purchased Power Adjustment. Those decreases were offset by a $1.1 million increase in the current portion of revenue bonds payable.

## Long-Term Debt

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Long-term debt decreased $10.7 million or 4.3 percent primarily due to $10.1 million of long-term bond debt that shifted to current liabilities as payable within the next year.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Long-term debt increased $71.5 million or 40.5 percent due to new debt issuances of $40 million in August 2014 and $35 million in April 2015 for the purpose of funding electric system capital improvements. The increase was partially offset by the scheduled repayment of bond debt.

## Deferred Inflows of Resources

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Deferred inflows decreased $2.3 million compared to the prior fiscal year due to differences in pension inflows.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Deferred inflows increased $3.1 million compared to the prior fiscal year due to the change in valuation of pension liability creating a deferred inflow.

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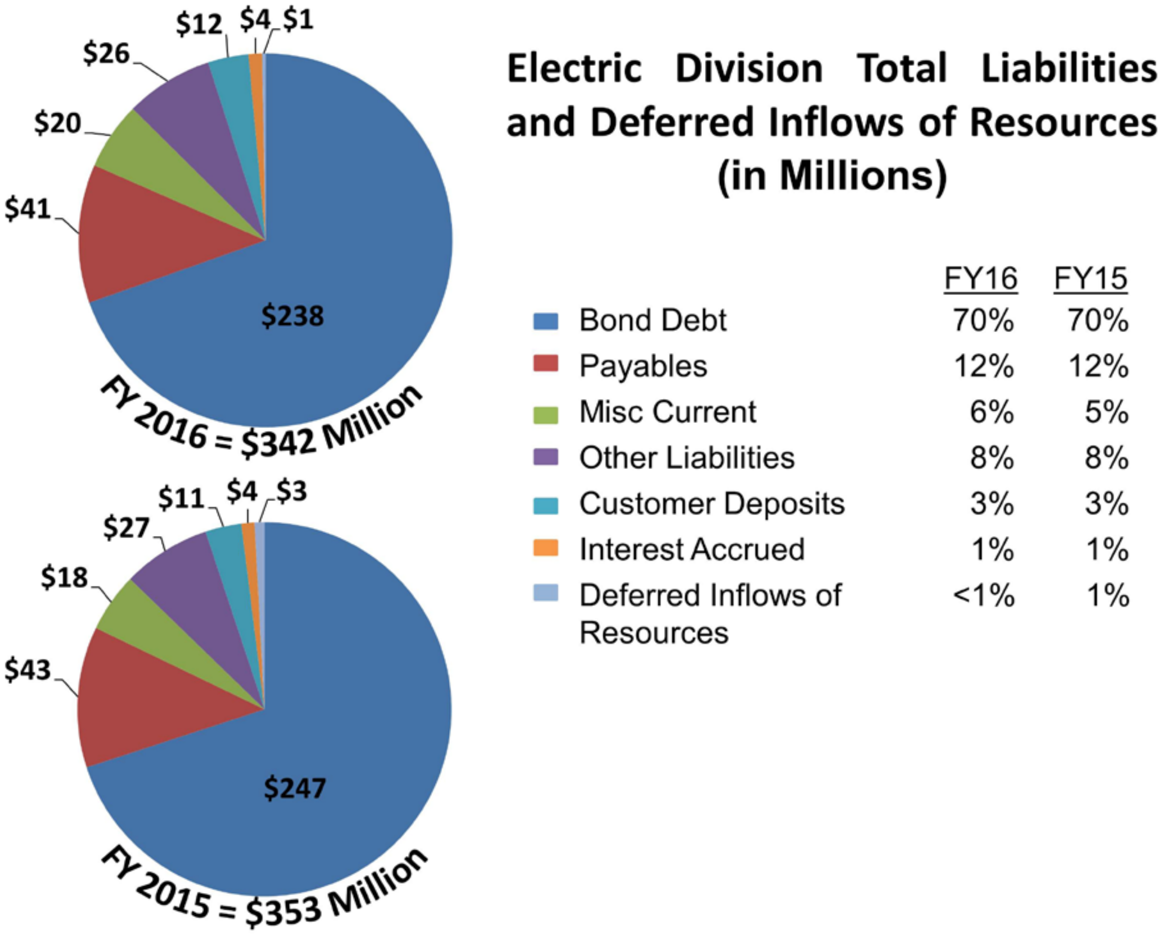

**Electric Division Total Liabilities and Deferred Inflows of Resources (in Millions)**

| | FY16 | FY15 |
|---|---|---|
| 🟦 Bond Debt | 70% | 70% |
| 🟥 Payables | 12% | 12% |
| 🟩 Misc Current | 6% | 5% |
| 🟪 Other Liabilities | 8% | 8% |
| 🟦 Customer Deposits | 3% | 3% |
| 🟧 Interest Accrued | 1% | 1% |
| 🟦 Deferred Inflows of Resources | <1% | 1% |

## Net Position

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Unrestricted net position decreased $29.8 million, primarily due to the $33.3 million decrease in current and other assets. Restricted net position increased $1 million, due to the net increase of the electric bond fund and the associated interest payable. Net investment in capital assets increased by $39.7 million or 17.4 percent. The increase was primarily the result of an increase of $30.5 million in net electric plant additions.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Unrestricted net position increased $43.8 million, primarily due to the $38.7 million increase in current and other assets. Restricted net position increased $1.1 million, due to the net increase of the electric bond fund and the associated interest payable. Net investment in capital assets decreased by $34.2 million or 13 percent. The decrease was primarily the result of an increase of $35.3 million of net electric plant additions offset by an increase of $68.1 million in long-term debt from new bond issuances.

## Statement of Revenues, Expenses and Changes in Net Position

The following table reflects the condensed Statement of Revenues, Expenses and Changes in Net Position for the Electric Division compared to the prior year and the year preceding the prior year.

### Statements of Revenues, Expenses and Changes in Net Position
### For the Years Ended June 30

| *(in thousands of dollars)* | **2016** | **2015** | **2014** |
|---|---|---|---|
| Operating revenues | $ 521,369 | $ 533,206 | $ 527,833 |
| Less: Purchased power expense | 402,604 | 419,773 | 419,558 |
| Margin from sales | 118,765 | 113,433 | 108,275 |
| Operating expenses | | | |
| Distribution | 33,062 | 34,408 | 32,905 |
| Customer service | 6,589 | 6,546 | 5,858 |
| Administrative and general | 14,856 | 13,822 | 13,351 |
| Depreciation | 29,490 | 25,888 | 23,190 |
| Taxes and tax equivalents | 15,795 | 15,069 | 13,627 |
| Total operating expenses | 99,792 | 95,733 | 88,931 |
| Operating income | 18,973 | 17,700 | 19,344 |
| Interest income | 549 | 322 | 290 |
| Interest expense | (9,258) | (8,549) | (7,739) |
| Other income/(expense) | 438 | 1,585 | (213) |
| Change in net position before capital contributions | 10,702 | 11,058 | 11,682 |
| Capital contributions | 178 | 12 | 306 |
| Change in net position | $ 10,880 | $ 11,070 | $ 11,988 |

## Normal Impacts on Statement of Revenues, Expenses and Changes in Net Position

The following is a description of activities which will normally impact the comparability of the Statement of Revenues, Expenses and Changes in Net Position presentation.

- Operating revenue is largely determined by the volume of electric power sales for the fiscal year. Any change (increase/decrease) in retail electric rates would also be a cause of change in operating revenue.

- Purchased power expense is determined by volume of power purchases from TVA for the fiscal year. Also, any change (increase/decrease) in TVA wholesale power rates would result in a change in purchased power expense.

- Operating expenses (distribution, customer service, administrative and general) are normally impacted by changes in areas including, but not limited to, labor costs (staffing, wage rates), active employee and retiree medical costs, and overhead line maintenance (tree trimming, pole inspection, etc.).

- Depreciation expense is impacted by plant additions and retirements during the fiscal year.

- Taxes and tax equivalents are impacted by plant additions/retirements, changes in property tax rates, and margin (operating revenue less purchased power expense) levels.

- Interest income is impacted by the level of interest rates and investments.

- Interest expense on debt is impacted by the level of outstanding debt and the interest rates on the outstanding debt.

- Other income/(expenses) is impacted by miscellaneous non-operating revenues and expenses.

- Capital contributions are impacted by a donation of facilities/infrastructure to KUB by developers and governmental agencies. The contributions are recognized as revenue and recorded as plant in service based on the fair market value of the asset(s).

## Impacts and Analysis

## Change in Net Position

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

The Division's net position increased $10.9 million, which was $0.2 million less than last year's $11.1 million increase. A restatement to fiscal year 2014's net position based on a change in method of accounting for the pension reduced the total net position by $0.4 million during fiscal year 2015 to $10.7 million. The lower earnings were attributable to the net effect of a $5.3 million increase in margin on sales, a $4.1 million rise in operating expenses, a $0.7 million increase in interest expense and a $1.1 million decrease in other income.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

The Division's net position increased $11.1 million, which was $0.9 million less than last year's $12 million increase. A restatement to the prior fiscal year's net position based on a change in method of accounting for the pension reduced the total net position by $0.4 million during fiscal year 2015 to $10.7 million. The lower earnings were attributable to the net effect of a $5.2 million increase in margin on sales, a $6.8 million rise in operating expenses, a $0.8 million increase in interest expense, a $1.8 million increase in other income and a $0.3 million decrease in capital contributions.

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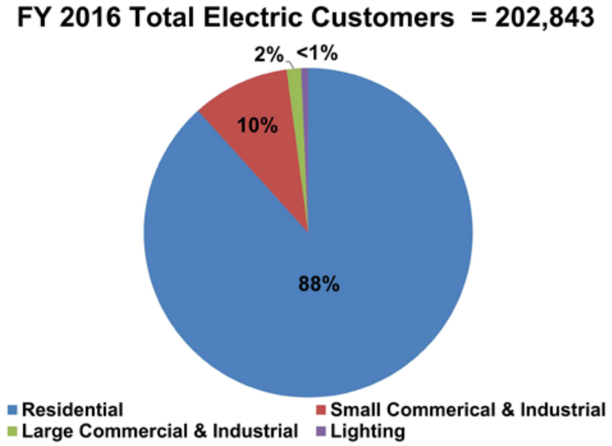
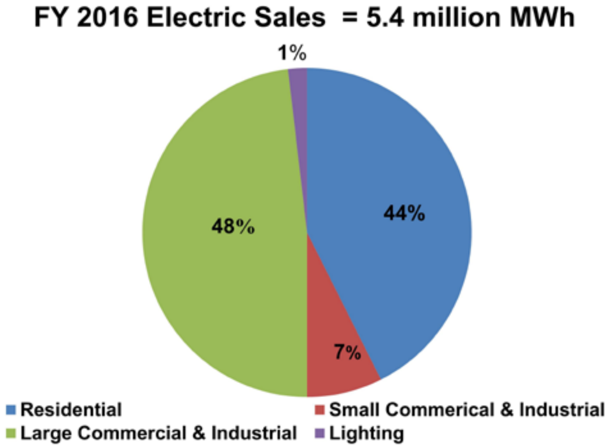
## Margin from Sales

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Margin on electric sales grew $5.3 million, reflecting higher revenues due to the July 2014 and July 2015 rate increases.

Operating revenue decreased $11.8 million or 2.2 percent, reflecting the net result of additional revenue from KUB's one percent electric rate increase effective July 2015 and the flow through of TVA rate adjustments, offset by the second mildest winter in the last forty years. The milder winter resulted in a 3.1 percent decline in total power sales volumes. Purchased power expense decreased $17.2 million over last year. Power sales of 5.4 million MWh were 0.1 million MWh less than the prior fiscal year.





Residential customers represented 88 percent of total electric system customers and accounted for 44 percent of electric sales volumes for the year. Large commercial and industrial customers accounted for the largest portion of total sales volumes for the year, which was consistent with the prior year due to a steady customer base. KUB's ten largest electric customers accounted for 16.2 percent of KUB's billed volumes. Those ten customers represent five industrial and five commercial customers, including two governmental customers. Sales to Gerdau Ameristeel, KUB's largest industrial customer, accounted for 5.7 percent of total electric system sales.

KUB has added 4,487 electric system customers over the past three years, representing annual growth of less than one percent.

Electric sales volumes have remained consistent over the past three years with fiscal year 2016 residential sales being impacted by the mild winter.

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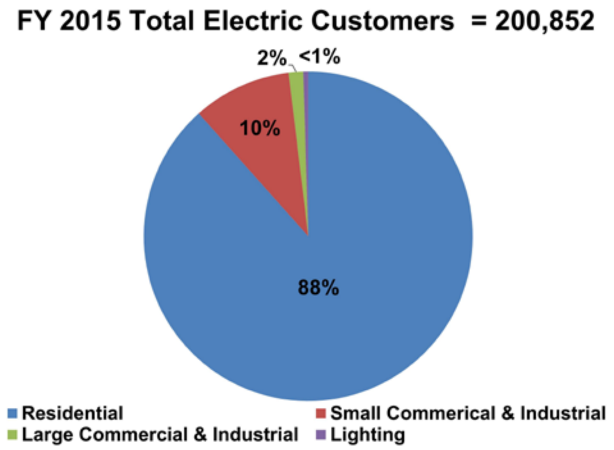
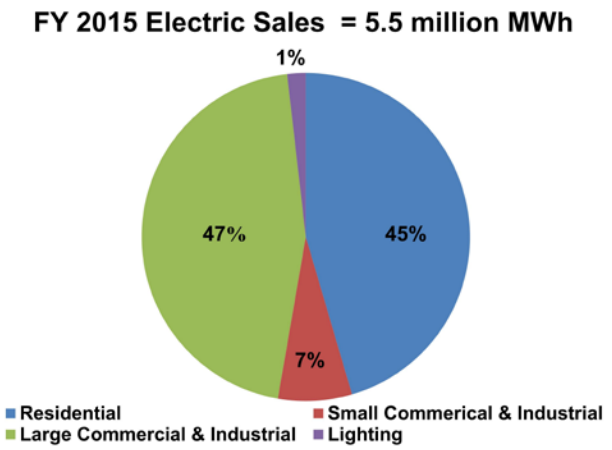
### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Margin on electric sales grew $5.2 million, reflecting higher revenues due to the October 2013 and July 2014 rate increases.

Operating revenue increased $5.4 million or 1 percent, reflecting the net result of additional revenue from KUB's one percent electric rate increase effective July 2014, and the flow through of TVA rate adjustments. Purchased power expense increased $0.2 million over last year. Power sales of 5.5 million MWh were consistent with the prior fiscal year.


FY 2015 Total Electric Customers = 200,852


FY 2015 Electric Sales = 5.5 million MWh

Residential customers represented 88 percent of total electric system customers and accounted for 45 percent of electric sales volumes for the year. Large commercial and industrial customers accounted for the largest portion of total sales volumes for the year, which was consistent with the prior year due to a steady customer base. KUB's ten largest electric customers accounted for 15.6 percent of KUB's billed volumes. Those ten customers represent five industrial and five commercial customers, including two governmental customers. Sales to Gerdau Ameristeel, KUB's largest industrial customer, were 295 MWh or 5.3 percent of total electric system sales.

Electric sales volumes in fiscal year 2015 were consistent with the previous fiscal year.

KUB has added 3,194 electric system customers over the past three years, representing annual growth of less than one percent.

Electric sales volumes have increased 1.5 percent since fiscal year 2013. Large commercial and industrial sales have increased 0.2 percent over the same period of time.

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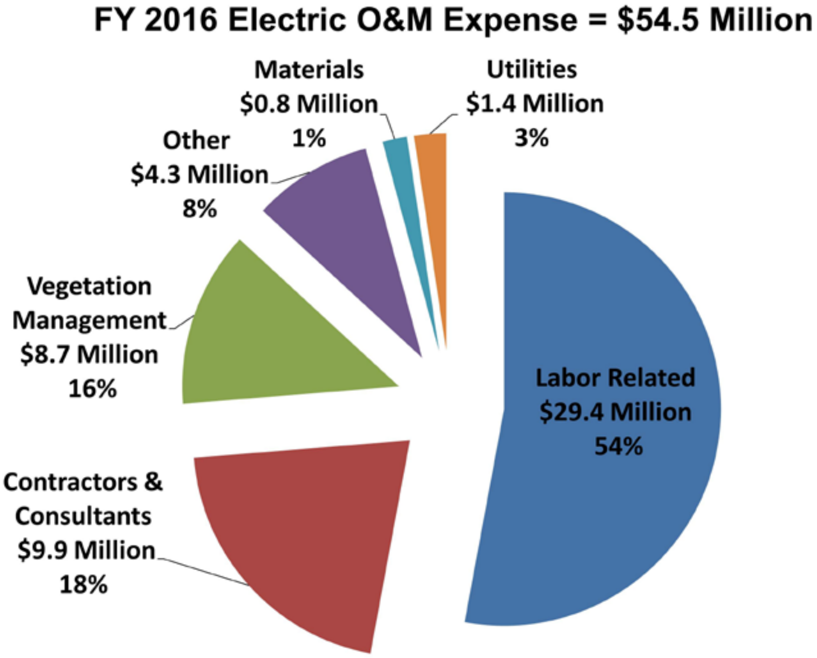
## Operating Expenses

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Operating expenses (excluding purchased power expense) increased 4.1 million, or 4.2 percent, compared to fiscal year 2015. Operating expenses include operations and maintenance (O&M) expense, depreciation, and taxes/tax equivalents. O&M expenses can be further classified as distribution, customer service and administrative and general.

- Distribution expenses decreased $1.3 million or 3.9 percent, primarily from reduced outside contractor and consultant use.
- Customer service expenses were consistent with the prior year.
- Administrative and general expenses increased $1 million or 7.5 percent, primarily due to higher pension expense.



- Depreciation expense for fiscal year 2016 increased $3.6 million or 13.9 percent. This increase was primarily attributable to Century II initiatives, substation upgrades and the impairment of meters due to the Grid Modernization project that calls for accelerated depreciation of meters being replaced over the next four years as part of the project.
- Taxes and tax equivalents were $0.7 million higher than the prior fiscal year primarily due to increased plant in service levels.

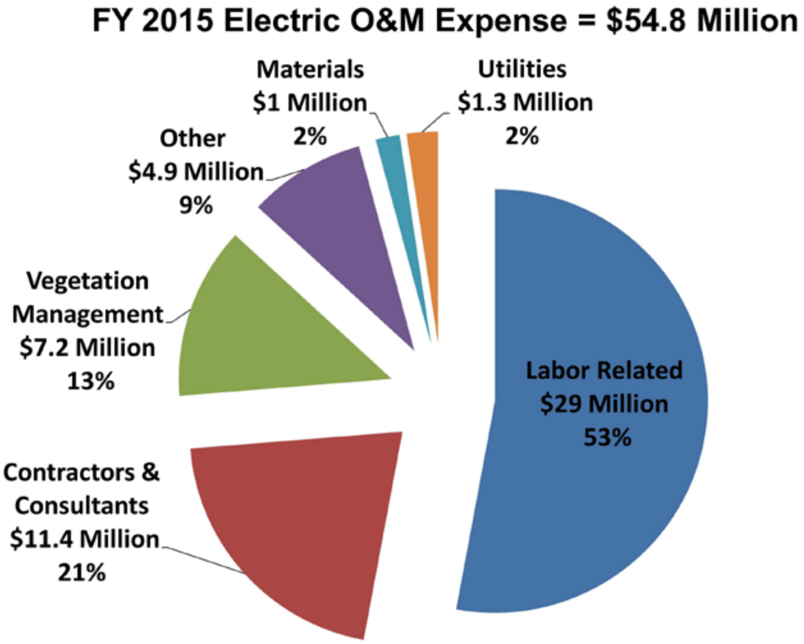
### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Operating expenses (excluding purchased power expense) increased $6.8 million, or 7.6 percent, compared to fiscal year 2014. Operating expenses include operations and maintenance (O&M) expense, depreciation, and taxes/tax equivalents. O&M expenses can be further classified as distribution, customer service and administrative and general.

- Distribution expenses increased $1.5 million or 4.6 percent, primarily from electric system restoration expenses related to the February 2015 ice storm.

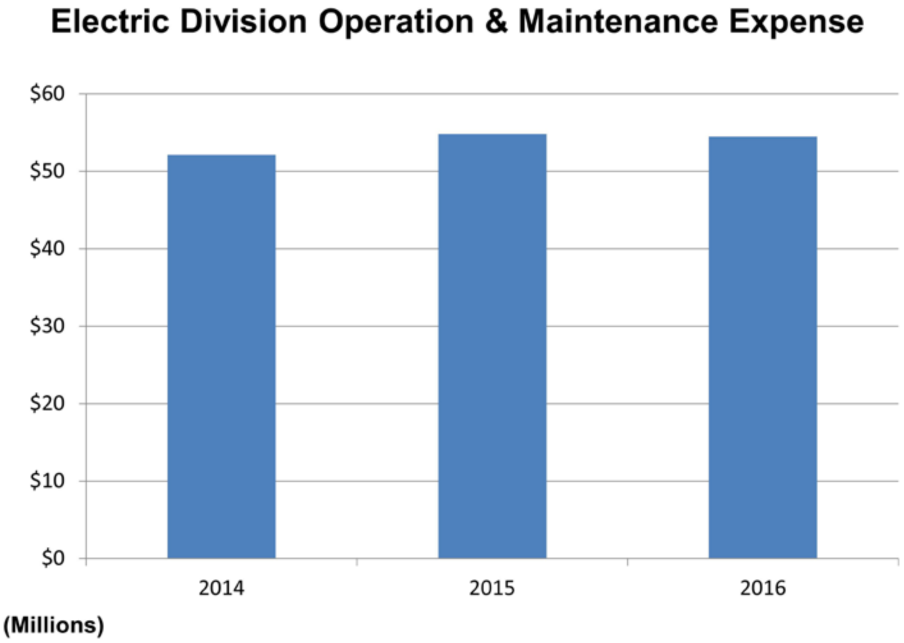
- Customer service expenses were up $0.7 million compared with the prior year, primarily due to increased computer software expenses and outside consultant expenses.

- Administrative and general expenses increased $0.5 million or 3.5 percent, primarily due to an increase in the Division’s portion of shared costs.



- Depreciation expense for fiscal year 2015 increased $2.7 million or 11.6 percent. This increase was primarily attributable to Grid Modernization related software, meters and meter testing equipment and substation improvements.

- Taxes and tax equivalents were $1.4 million higher than the prior fiscal year due to an increase in tax equivalent payments to the City of Knoxville, Knox County, and other taxing jurisdictions. The City of Knoxville’s property tax rate increased this year and higher plant in service levels contributed to the growth in tax equivalent payments.



## Other Income and Expense

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Interest income increased $0.2 million compared to the the prior fiscal year.

Interest expense increased $0.7 million or 8.3 percent, primarily due to the additional interest accrued on long-term revenue bonds issued in August 2014 and April 2015.

Other income (net) decreased $1.1 million, primarily due to the recognition of $1.6 million in non-operating income for future reimbursement of restoration expenses related to the February 2015 ice storm in fiscal year 2015.

The Division's capital contributions increased $0.2 million due to more donated assets compared to the prior fiscal year.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Interest income was consistent with the prior fiscal year.

Interest expense increased $0.8 million or 10.5 percent, primarily due to the additional interest accrued on long-term revenue bonds issued in August 2014 and April 2015.

Other income (net) increased $1.8 million, primarily due to an accrual of $1.6 million in non-operating income for future reimbursement of restoration expenses related to the February 2015 ice storm.

The Division's capital contributions decreased $0.3 million due to less donated assets compared to the prior fiscal year.

## Capital Assets

### Capital Assets
### As of June 30
### (Net of Depreciation)

*(in thousands of dollars)*

| | 2016 | 2015 | 2014 |
|---|---|---|---|
| **Distribution Plant** | | | |
| Services and Meters | $ 15,719 | $ 17,964 | $ 16,851 |
| Electric Station Equipment | 56,487 | 34,643 | 32,797 |
| Poles, Towers and Fixtures | 104,867 | 93,780 | 84,332 |
| Overhead Conductors | 84,937 | 79,199 | 73,663 |
| Line Transformers | 59,587 | 56,774 | 55,600 |
| Other Accounts | 113,141 | 108,888 | 106,894 |
| **Total Distribution Plant** | $ 434,738 | $ 391,248 | $ 370,137 |
| **General Plant** | 29,590 | 27,312 | 27,288 |
| **Total Plant Assets** | $ 464,328 | $ 418,560 | $ 397,425 |
| Work In Progress | 46,932 | 62,238 | 48,070 |
| **Total Net Plant** | $ 511,260 | $ 480,798 | $ 445,495 |

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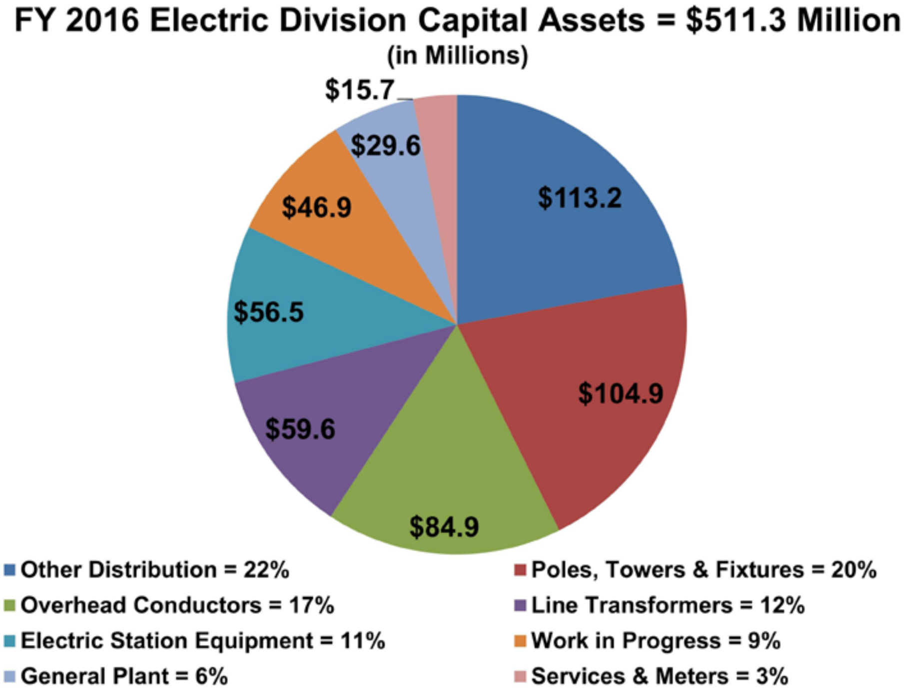
### *Fiscal Year 2016 Compared to Fiscal Year 2015*

As of June 30, 2016, the Division had $511.3 million invested in a variety of capital assets, as reflected in the schedule of capital assets, which represents a net increase (including additions, retirements, and depreciation) of $30.5 million or 6.3 percent over the end of the last fiscal year.

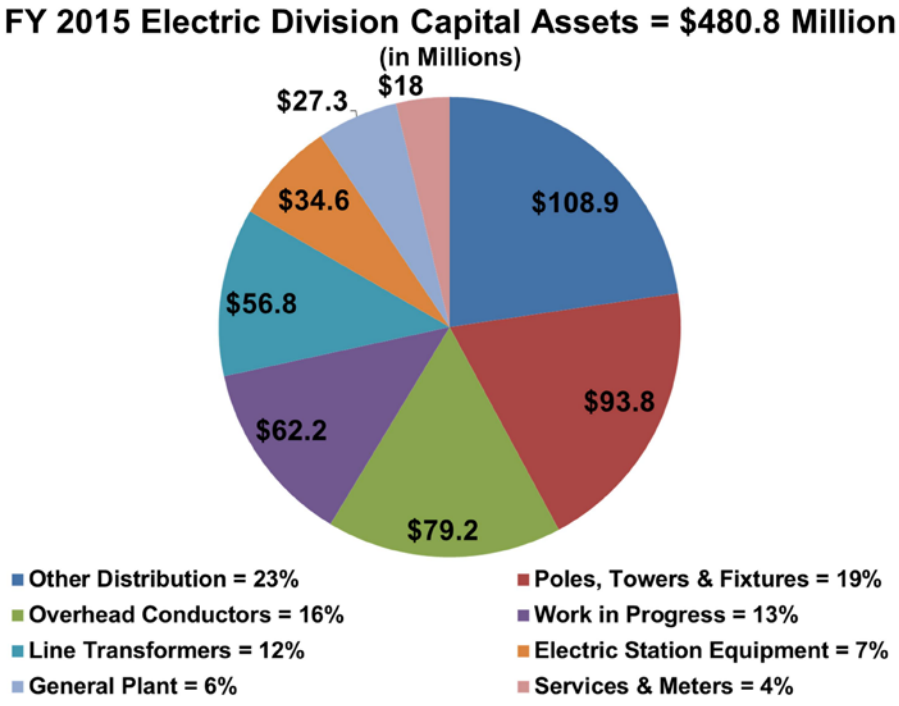


Major capital asset expenditures during the year were as follows:

- $25.1 million for electric distribution system improvements
- $7.7 million for pole replacements
- $7 million for installation of new electric services and the upgrade or replacement of existing services
- $4.9 million for Grid Modernization
- $4.1 million for upgrades to various information systems
- $1.8 million for the replacement and relocation of electric system assets to accommodate TDOT highway improvement projects
- $1.4 million for trucks and equipment
- $1.4 million for street lighting improvements

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

As of June 30, 2015, the Division had $480.8 million invested in a variety of capital assets, as reflected in the schedule of capital assets, which represents a net increase (including additions, retirements, and depreciation) of $35.3 million or 7.9 percent over the end of the last fiscal year.



Major capital asset expenditures during the year were as follows:

- $28.7 million for various electric distribution improvements
- $6 million for pole replacements
- $5.9 million for installation of new electric services and the upgrade or replacement of existing services
- $4.5 million for new Cherokee Trail substation
- $4 million for information systems upgrades

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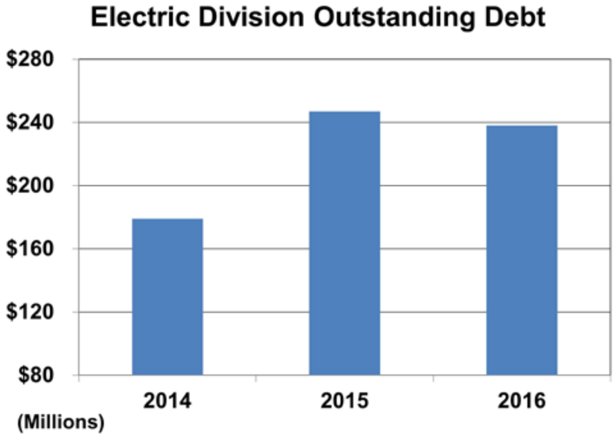
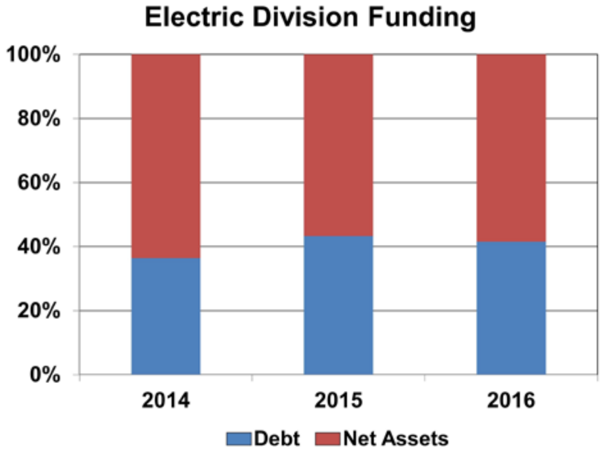
## Debt Administration

The Division's outstanding debt was $238 million at June 30, 2016. The bonds are secured solely by revenues of the Electric Division. Debt as a percentage of the Division's capital structure was 41.6 percent in 2016, 43.3 percent in 2015 and 36.4 percent at the end of fiscal year 2014. KUB's Debt Management Policy limits the Division's debt ratio to 60 percent or less.

### Outstanding Debt
### As of June 30

| *(in thousands of dollars)* | 2016 | 2015 | 2014 |
|---|---|---|---|
| Revenue bonds | $ 237,985 | $ 247,055 | $ 178,940 |
| Total outstanding debt | $ 237,985 | $ 247,055 | $ 178,940 |





The Division will pay $119.2 million in principal payments over the next ten years, representing 50.1 percent of the outstanding bonds. KUB's Debt Management Policy requires that a minimum of 30 percent of electric debt principal be repaid over the next ten years.

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

As of June 30, 2016, the Division had $238 million in outstanding debt (including the current portion of revenue bonds), compared to $247.1 million last year, a decrease of $9.1 million or 3.7 percent. The decrease is attributable to the scheduled repayment of bond debt. The Division's weighted average cost of debt at June 30, 2016 was 3.89 percent.

The Division's outstanding debt is rated by Standard & Poor's and Moody's Investors Service. As of June 30, 2016, the Division's revenue bonds were rated AA+ by Standard & Poor's and Aa2 by Moody's Investors Service.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

As of June 30, 2015, the Division had $247.1 million in outstanding debt (including the current portion of revenue bonds), compared to $178.9 million last year, an increase of $68.2 million or 38.1 percent. The Division's weighted average cost of debt at June 30, 2015 was 3.89 percent.

The increase is attributable to the issuance of revenue bonds during the fiscal year of $40 million in August 2014 and $35 million in April 2015. The increase was partially offset by the scheduled repayment of bond debt.

In April 2015, KUB issued $28.6 million of revenue refunding bonds. The refunding of certain bonds at lower interest rates will provide debt service savings of $2.2 million over the life of the bonds.

The Division's outstanding debt is rated by Standard & Poor's and Moody's Investors Service. As of June 30, 2015, the Division's revenue bonds were rated AA+ by Standard & Poor's and Aa2 by Moody's Investors Service.

## Impacts on Future Financial Position

KUB anticipates adding 1,300 additional electric customers in fiscal year 2017.

In June 2014, the KUB Board adopted three years of rate increases for the Electric Division to help fund the ongoing Century II infrastructure programs. The first and second rate increases were effective July 2014 and July 2015. The remaining electric rate increase will be effective July 2016. Each rate increase will provide approximately $5.2 million in additional annual Electric Division revenue.

In April 2016, KUB management presented the fiscal year 2017 budget to the KUB Board of Commissioners that accommodates the projected level of capital investment for the fiscal year. Over the course of the next ten years KUB plans to spend approximately $108 million dollars on Grid Modernization, of which the Division's share is approximately $69.7 million. In July 2016, the four-year deployment of advanced meters began.

KUB sold $40 million in electric system revenue bonds in July 2016 for the purpose of funding electric system capital improvements. The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.75 percent.

KUB long-term debt includes $23.9 million of Electric Division 2010 Build America Bonds (BABs). The BABs were sold on a taxable basis with the United States Treasury providing a rebate to KUB for a percentage of the interest cost. The interest rebates were subject to federal sequestration during the fiscal year and were reduced by 6.8 percent. Any future actions by Congress may also affect the anticipated rebates for future fiscal years.

GASB Statement No. 82, *Pension Issues – An amendment of GASB Statements No. 67, No. 68 and No. 73* is effective for fiscal years beginning after June 15, 2016. GASB Statement No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans,* and GASB No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions,* are effective for periods beginning after June 15, 2017. KUB has not elected early implementation of these standards and has not completed the process of evaluating the impact of these statements on its financial statements.

No other facts, decisions, or conditions are currently known which would have a significant impact on the Division's financial position or results of operations during fiscal year 2016.

## Financial Contact

The Division's financial statements are designed to present users (citizens, customers, investors, and creditors) with a general overview of the Division's financial position and results of operations for the fiscal years ending June 30, 2016 and 2015. If you have questions about the statements or need additional financial information, contact KUB's Chief Financial Officer at 445 South Gay Street, Knoxville, Tennessee 37902.

# Knoxville Utilities Board Electric Division
## Statements of Net Position
## June 30, 2016 and 2015

| | 2016 | 2015 |
|---|---|---|
| **Assets and Deferred Outflows of Resources** | | |
| Current assets: | | |
| Cash and cash equivalents | $ 34,791,786 | $ 44,471,851 |
| Short-term contingency fund investments | 6,950,668 | 2,478,572 |
| Other current assets | 374,356 | 1,018,522 |
| Accrued interest receivable | 23,575 | 28,982 |
| Accounts receivable, less allowance of uncollectible accounts of $594,022 in 2016 and $548,492 in 2015 | 53,968,641 | 58,078,711 |
| Inventories | 8,359,135 | 6,669,312 |
| Prepaid expenses | 684,835 | 649,770 |
| Total current assets | 105,152,996 | 113,395,720 |
| Restricted assets: | | |
| Electric bond fund | 14,739,081 | 12,976,376 |
| Other funds | 10,281 | 21,071 |
| Unused bond proceeds | - | 20,519,850 |
| Total restricted assets | 14,749,362 | 33,517,297 |
| Electric plant in service | 859,020,997 | 789,895,908 |
| Less accumulated depreciation | (394,693,191) | (371,336,117) |
| | 464,327,806 | 418,559,791 |
| Retirement in progress | 1,071,534 | 568,243 |
| Construction in progress | 45,860,796 | 61,669,625 |
| Net plant in service | 511,260,136 | 480,797,659 |
| Other assets: | | |
| Net pension asset | - | 2,890,382 |
| Long-term contingency fund investments | 24,934,746 | 27,725,842 |
| TVA conservation program receivable | 8,153,192 | 10,109,135 |
| Under recovered purchased power cost | 1,379,643 | - |
| Other | 2,640,401 | 2,720,927 |
| Total other assets | 37,107,982 | 43,446,286 |
| Total assets | 668,270,476 | 671,156,962 |
| Deferred outflows of resources: | | |
| Pension outflow | 4,971,500 | 1,515,455 |
| Unamortized bond refunding costs | 3,572,465 | 3,895,275 |
| Total deferred outflows of resources | 8,543,965 | 5,410,730 |
| Total assets and deferred outflows of resources | $ 676,814,441 | $ 676,567,692 |

The accompanying notes are an integral part of these financial statements.

# Knoxville Utilities Board Electric Division
## Statements of Net Position
## June 30, 2016 and 2015

| | 2016 | 2015 |
|---|---|---|
| **Liabilities, Deferred Inflows, and Net Position** | | |
| Current liabilities: | | |
| Current portion of revenue bonds | $ 10,110,000 | $ 9,070,000 |
| Sales tax collections payable | 881,833 | 910,574 |
| Accounts payable | 40,653,044 | 42,598,006 |
| Accrued expenses | 19,309,494 | 17,658,067 |
| Customer deposits plus accrued interest | 11,735,639 | 11,084,371 |
| Accrued interest on revenue bonds | 4,628,956 | 3,906,251 |
| Total current liabilities | 87,318,966 | 85,227,269 |
| Other liabilities: | | |
| TVA conservation program | 8,412,853 | 10,336,682 |
| Accrued compensated absences | 4,344,437 | 3,922,730 |
| Customer advances for construction | 1,262,889 | 1,280,962 |
| Net pension liability | 2,419,277 | - |
| Over recovered purchased power cost | - | 500,522 |
| Other | 159,005 | 220,247 |
| Total other liabilities | 16,598,461 | 16,261,143 |
| Long-term debt: | | |
| Electric revenue bonds | 227,875,000 | 237,985,000 |
| Unamortized premiums/discounts | 9,728,282 | 10,345,326 |
| Total long-term debt | 237,603,282 | 248,330,326 |
| Total liabilities | 341,520,709 | 349,818,738 |
| Deferred inflows of resources: | | |
| Pension inflow | 725,888 | 3,061,589 |
| Total deferred inflows of resources | 725,888 | 3,061,589 |
| Total liabilities and deferred inflows of resources | 342,246,597 | 352,880,327 |
| Net position | | |
| Net investment in capital assets | 268,462,479 | 228,768,196 |
| Restricted for: | | |
| Debt service | 10,110,125 | 9,070,125 |
| Other | 10,281 | 21,070 |
| Unrestricted | 55,984,959 | 85,827,974 |
| Total net position | 334,567,844 | 323,687,365 |
| Total liabilities, deferred inflows, and net position | $ 676,814,441 | $ 676,567,692 |

The accompanying notes are an integral part of these financial statements.

# Knoxville Utilities Board Electric Division
## Statements of Revenues, Expenses and Changes in Net Position
## Years Ended June 30, 2016 and 2015

| | 2016 | 2015 |
|---|---|---|
| Operating revenues | $ 521,369,202 | $ 533,205,845 |
| Operating expenses | | |
| Purchased power | 402,603,523 | 419,773,131 |
| Distribution | 33,062,072 | 34,407,647 |
| Customer service | 6,589,446 | 6,546,034 |
| Administrative and general | 14,856,340 | 13,821,576 |
| Provision for depreciation | 29,490,370 | 25,887,777 |
| Taxes and tax equivalents | 15,794,474 | 15,069,402 |
| Total operating expenses | 502,396,225 | 515,505,567 |
| Operating income | 18,972,977 | 17,700,278 |
| Non-operating revenues (expenses) | | |
| Contributions in aid of construction | 1,632,730 | 1,551,247 |
| Interest and dividend income | 549,060 | 322,222 |
| Interest expense | (9,257,913) | (8,548,826) |
| Amortization of debt costs | 143,733 | 72,445 |
| Write-down of plant for costs recovered through contributions | (1,632,730) | (1,551,247) |
| Other | 294,226 | 1,512,078 |
| Total non-operating revenues (expenses) | (8,270,894) | (6,642,081) |
| Change in net position before capital contributions | 10,702,083 | 11,058,197 |
| Capital contributions | 178,396 | 11,611 |
| Change in net position | 10,880,479 | 11,069,808 |
| Net position, beginning of year, as previously reported | 323,687,365 | 312,984,264 |
| Change in method of accounting for pension | - | (366,707) |
| Net position, beginning of year, as restated | 323,687,365 | 312,617,557 |
| Net position, end of year | $ 334,567,844 | $ 323,687,365 |

The accompanying notes are an integral part of these financial statements.

# Knoxville Utilities Board Electric Division
## Statements of Cash Flows
## Years Ended June 30, 2016 and 2015

| | 2016 | 2015 |
|---|---|---|
| Cash flows from operating activities: | | |
| Cash receipts from customers | $ 518,450,827 | $ 526,079,765 |
| Cash receipts from other operations | 10,049,581 | 8,687,968 |
| Cash payments to suppliers of goods or services | (439,418,959) | (460,073,403) |
| Cash payments to employees for services | (24,308,505) | (22,949,363) |
| Payment in lieu of taxes | (13,900,176) | (13,309,981) |
| Cash receipts from collections of TVA conservation loan program participants | 3,067,056 | 3,046,131 |
| Cash payments for TVA conservation loan program | (3,034,941) | (3,071,013) |
| Net cash provided by operating activities | 50,904,883 | 38,410,104 |
| Cash flows from capital and related financing activities: | | |
| Net proceeds from bond issuance | - | 77,011,071 |
| Principal paid on revenue bonds and notes payable | (9,070,000) | (7,935,000) |
| (Increase) decrease in unused bond proceeds | 20,519,850 | (20,519,850) |
| Interest paid on revenue bonds and notes payable | (8,535,208) | (7,849,367) |
| Acquisition and construction of electric plant | (62,417,653) | (63,915,204) |
| Changes in electric bond fund, restricted | (1,762,705) | (1,392,547) |
| Customer advances for construction | 33,177 | 525,582 |
| Proceeds received on disposal of plant | 241,531 | - |
| Cash received from developers and individuals for capital purposes | 1,632,730 | 1,551,247 |
| Net cash used in capital and related financing activities | (59,358,278) | (22,524,068) |
| Cash flows from investing activities: | | |
| Changes in deposit and investment accounts: | | |
| Purchase of investment securities | (4,019,405) | (7,518,767) |
| Maturities of investment securities | 2,476,455 | 4,354,758 |
| Interest received | 554,467 | 304,148 |
| Other property and investments | (238,187) | (26,575) |
| Net cash provided by (used in) investing activities | (1,226,670) | (2,886,436) |
| Net increase (decrease) in cash and cash equivalents | (9,680,065) | 12,999,600 |
| Cash and cash equivalents, beginning of year | 44,471,851 | 31,472,251 |
| Cash and cash equivalents, end of year | 34,791,786 | $ 44,471,851 |
| **Reconciliation of operating income to net cash provided by operating activities** | | |
| Operating income | $ 18,972,977 | $ 17,700,278 |
| Adjustments to reconcile operating income to net cash provided by operating activities: | | |
| Depreciation expense | 30,602,422 | 26,978,350 |
| Changes in operating assets and liabilities: | | |
| Accounts receivable | 4,191,195 | 602,185 |
| Inventories | (1,689,822) | 853,013 |
| Prepaid expenses | (35,065) | 20,329 |
| TVA conservation program receivable | 1,874,818 | 523,680 |
| Other assets | 584,979 | (1,782,164) |
| Sales tax collections payable | (28,741) | 32,501 |
| Accounts payable and accrued expenses | (353,913) | (2,711,061) |
| Unrecovered purchased power cost | (1,880,165) | (3,912,247) |
| TVA conservation program payable | (1,923,829) | (548,563) |
| Customer deposits plus accrued interest | 651,269 | 558,360 |
| Other liabilities | (61,242) | 95,443 |
| Net cash provided by operating activities | $ 50,904,883 | $ 38,410,104 |
| Noncash capital activities: | | |
| Acquisition of plant assets through developer contributions | $ 178,396 | $ 11,611 |

The accompanying notes are an integral part of these financial statements.

## 1. Description of Business

Knoxville Utilities Board (KUB), comprised of the Electric Division, Gas Division, Water Division, and Wastewater Division (Divisions), is reported as a component unit enterprise fund in the financial statements of the City of Knoxville. KUB's responsibility is to oversee the purchase, production, distribution, and processing of electricity, natural gas, water, and wastewater services. A seven-member Board of Commissioners (Board) governs KUB. The Board has all powers to construct, acquire, expand, and operate the Divisions. It has full control and complete jurisdiction over the management and operation of the Divisions including setting rates. The Electric Division (Division) provides services to certain customers in Knox County and in seven surrounding counties in East Tennessee. The Division's accounts are maintained in conformity with the Uniform Division of Accounts of the Federal Energy Regulatory Commission (FERC) and the Governmental Accounting Standards Board (GASB), as applicable. The financial statements present only the Electric Division and do not purport to, and do not, present fairly the consolidated financial position of Knoxville Utilities Board at June 30, 2016 and 2015, and the changes in its financial position for the years then ended in conformity with accounting principles generally accepted in the United States of America.

## 2. Summary of Significant Accounting Policies

### Basis of Accounting

In conformity with Generally Accepted Accounting Principles (GAAP), KUB follows the provisions of GASB Statement No. 34 (Statement No. 34), *Financial Statements – and Management's Discussion and Analysis – for State and Local Governments* as amended by GASB Statement No. 63 (Statement No. 63), *Financial Reporting of Deferred Outflows of Resources, Deferred Inflows of Resources and Net Position.* Statement No. 34 established standards for external financial reporting for all state and local governmental entities. Under Statement No. 63, financial statements include deferred outflows of resources and deferred inflows of resources, in addition to assets and liabilities, and will report *net position* instead of net assets. In addition, KUB follows GASB Statement No. 62 (Statement No. 62), *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements* as it relates to certain items for regulatory accounting. Regulatory accounting allows a regulated utility to defer a cost (a regulatory asset) or recognize an obligation (a regulatory liability) if it is probable that through the rate making process, there will be a corresponding increase or decrease in future revenues. Accordingly, KUB has recognized certain regulatory assets and regulatory liabilities in the accompanying Statements of Net Position.

The financial statements are prepared on the accrual basis of accounting, whereby revenues are recognized when earned and expenses are recognized when incurred. The accounting and financial reporting treatment applied to the Division is determined by measurement focus. The transactions of the Division are accounted for on a flow of economic resources measurement focus. With this measurement focus, all assets and all liabilities associated with the operations are included on the Statement of Net Position. Net position (i.e., total assets and deferred outflows of resources net of total liabilities and deferred inflows of resources) is segregated into net investment in capital assets, restricted for capital activity and debt service, and unrestricted components.

### Recently Adopted New Accounting Pronouncements

In February 2015, the Governmental Accounting Standards Board (GASB) issued Statement No. 72 (Statement No. 72), *Fair Value Measurement and Application.* Statement No. 72 is intended to provide guidance for determining a fair value measurement for financial reporting purposes and for applying fair value to certain investments and disclosures related to all fair value measurements.

In June 2015, the GASB issued GASB Statement No. 73 (Statement No. 73), *Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provision of GASB Statements 67 and 68.* The requirements of this Statement will improve financial reporting by establishing a single framework for the presentation of information about pensions and enhance comparability.

In June 2015, the GASB issued GASB Statement No. 76 (Statement No. 76), *The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments*. The objective of this Statement is to simplify the hierarchy of generally accepted accounting principles (GAAP) used to prepare financial statements of state and local governmental entities. This Statement supersedes Statement No. 55, *The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments,* and amends Statement No. 62, *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements*, paragraphs 64, 74, and 82.

In December 2015, the GASB issued GASB Statement No. 79 (Statement No. 79), *Certain External Investment Pools and Pool Participants.* This statement establishes criteria for an external investment pool to qualify for making the election to measure all of its investments at amortized cost for financial reporting purposes.

Statements No. 72, 73, 76, and 79 are effective for fiscal years beginning after June 15, 2015.

### Electric Plant

Electric plant and other property are stated on the basis of original cost. The cost of current repairs and minor replacements is charged to operating expense. The cost of renewals and improvements is capitalized. The original cost of utility plant assets retired or otherwise disposed of and the cost of removal less salvage value is charged to accumulated depreciation. When other property is retired, the related asset and accumulated depreciation are removed from the accounts, and the gain or loss is included in the results of operations.

The provision for depreciation of electric plant in service is based on the estimated useful lives of the assets, which range from three to forty years, and is computed using the straight-line method. Pursuant to FERC, the caption "Provision for depreciation" in the Statements of Revenues, Expenses and Changes in Net Position does not include depreciation for transportation equipment of $1,112,052 in fiscal year 2016 and $1,090,573 in fiscal year 2015. Under regulatory accounting, interest costs are expensed as incurred with construction of plant assets.

### Operating Revenue

Operating revenue consists primarily of charges for services provided by the principal operations of the KUB Electric Division. Operating revenue is recorded when the service is rendered, on a cycle basis, and includes an estimate of unbilled revenue. Revenues are reported net of bad debt expense of $1,342,705 in fiscal year 2016 and $1,987,329 in fiscal year 2015.

### Non-operating Revenue

Non-operating revenue consists of revenues that are related to financing and investing types of activities and result from non-exchange transactions or ancillary activities.

### Expense

When an expense is incurred for purposes for which there are both restricted and unrestricted net assets available, it is KUB’s policy to apply those expenses to restricted net assets to the extent such are available and then to unrestricted net assets.

### Net Position

GASB Statement No. 63 requires the classification of net position into three components – net investment in capital assets; net position-restricted; and net position-unrestricted.

These classifications are defined as follows:

- Net investment in capital assets – This component of net position consists of capital assets, including restricted capital assets, net of accumulated depreciation and reduced by the outstanding balances of any bonds, mortgages, notes, or other borrowings that are attributable to the acquisition, construction, or improvement of those assets. Deferred outflows of resources and deferred inflows of resources that are attributable to the acquisition, construction, or improvement of those assets or related debt also should be included in this component of net position. If there are significant unspent related debt proceeds at year end, the portion of the debt attributable to the unspent proceeds are not included in the calculation of net investment in capital assets. Rather, that portion of the debt is included in the same net position component as the unspent proceeds.

- Net position-restricted – This component of net position consists of restricted assets reduced by liabilities and deferred inflows of resources related to those assets. Generally, a liability relates to restricted assets if the asset results from a resource flow that also results in the recognition of a liability or if the liability will be liquidated with the restricted assets reported.

- Net position-unrestricted – This component of net position consists of assets, deferred outflows of resources, liabilities, and deferred inflows of resources that are not included in the determination of net investment in capital assets or the restricted component of net position.

### Contributions in Aid of Construction and Capital Contributions

Contributions in aid of construction are cash collections from customers or others for a particular purpose, generally the construction of new facilities to serve new customers in excess of the investment KUB is willing to make for a particular incremental revenue source. KUB reduces the plant account balances to which contributions relate by the actual amount of the contribution and recognizes the contributions as non-operating revenue in accordance with Statement No. 62.

Capital contributions represent contributions of utility plant infrastructure constructed by developers and others in industrial parks and other developments, and transferred to KUB upon completion of construction and the initiation of utility service. In accordance with GASB Statement No. 33, *Accounting and Financial Reporting for Nonexchange Transactions*, such contributions are recognized as revenues and capital assets upon receipt.

### Inventories

Inventories, consisting of plant materials and operating supplies, are valued at the lower of average cost or replacement value.

### Change in Method of Accounting for Pension

In June 2012, the Governmental Accounting Standards Board (GASB) issued Statement No. 68, *Accounting and Financial Reporting for Pensions – An Amendment of GASB Statement No. 27*, which revises existing standards of financial reporting for pensions. In addition, during November 2013, GASB issued Statement No. 71, *Pension Transition for Contributions Made Subsequent to the Measurement Date*, which requires deferred outflow of resources to be recognized for any contributions made subsequent to the measurement date of the beginning net pension liability. These standards were adopted by KUB in 2015 and resulted in a restatement of 2015 beginning net position of $763,975 (Division's share $366,707).

### Pension Plan

KUB's employees are participants in the Knoxville Utilities Board Pension Plan as authorized by the Charter of the City of Knoxville §1107(J) (Note 10). KUB's policy is to fully fund the annual actuarially determined contributions. As required by GASB Statement No. 68, KUB measures net pension liability as total pension liability less the amount of the Plan's fiduciary net position. The amounts reported as of June 30, 2016 and 2015 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2016 and 2015 are based on a December 31, 2015 and 2014 measurement date, respectively.

### Investments

Investments are carried at fair value as determined by quoted market prices at the reporting date.

### Self-Insurance

KUB has established self-insurance programs covering portions of workers' compensation, employee health, environmental liability, general liability, property and casualty liability and automobile liability claims. A liability is accrued for claims as they are incurred. When applicable, claims in excess of the self-insured risk are covered by KUB's insurance carrier. Additionally, KUB provides certain lifetime health benefits to eligible retired employees under a self-insurance plan administered by a third party.

### Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. These estimates are based on historical experience and various other assumptions that KUB believes are reasonable under the circumstances. However, future events are subject to change and the best estimates and judgments routinely require adjustment. Estimates are used for, but not limited to, inventory valuation, allowance for uncollectible accounts, depreciable lives of plant assets, unbilled revenue volumes, pension trust valuations, OPEB trust valuations, insurance liability reserves, and potential losses from contingencies and litigation. Actual results could differ from those estimates.

### Restricted and Designated Assets

Certain assets are restricted by bond resolutions for the construction of utility plant and debt repayment. Certain additional assets are designated by management for contingency purposes and economic development.

### Cash Equivalents

For purposes of the Statements of Cash Flows, KUB considers all unrestricted and undesignated highly liquid investments with an original maturity of three months or less when purchased to be cash equivalents.

### Deferred Outflows and Inflows of Resources

Deferred outflows of resources are items previously reported as assets related to the acquisition of assets or related debt which are amortized over the life of the asset or debt. Deferred inflows of resources are items previously reported as liabilities related to the acquisition of assets or related debt which are amortized over the life of the asset or debt. KUB records costs associated with the gain or loss on refunding of debt as either a deferred outflow or inflow based on the parameters of Statement No. 65. Deferred outflows of resources also include employer pension contributions made subsequent to the measurement date of the net pension liability and before the end of the employer's reporting period in accordance with Statement No. 71. Deferred inflows and deferred outflows also include the net difference between projected and actual earnings on pension plan

investments and differences between expected and actual experience in accordance with Statement No. 68.

### Debt Premium/Discount

KUB records unamortized premium and discount on debt as a separate line item in the Long Term Debt section of the Financial Statements. Amortization of these amounts is recorded over the life of the applicable debt and is recorded as amortization expense.

### Debt Issuance Costs

In accordance with regulatory accounting, KUB records debt issuance costs as an Other Asset. Amortization of these amounts is recorded over the life of the applicable debt and is recorded as amortization expense.

### Deferred Gain/Loss on Refunding of Debt

KUB records costs associated with the gain or loss on refunding of debt as either a deferred outflow or inflow based on the parameters of Statement No. 65. In accordance with FERC presentation, amortization of these amounts is recorded over the life of the applicable debt and is recorded as amortization expense.

### Compensated Absences

KUB accrues a liability for earned but unpaid paid-time off (PTO) days.

### TVA Conservation Program

KUB previously served as a fiscal intermediary for TVA whereby loans were made to KUB customers by TVA to be used in connection with TVA’s Energy Right Residential Program. While KUB still holds existing loans, no loans were made through this program after October 31, 2015.

### Subsequent Events

KUB has evaluated events and transactions through October 27, 2016, the date these financial statements were issued, for items that should potentially be recognized or disclosed. KUB sold $40 million in electric system revenue bonds in July 2016 for the purpose of funding electric system capital improvements in fiscal year 2017. The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.75 percent.

### Purchased Power Adjustment

In October 2002, the Board adopted a Purchased Power Adjustment (PPA) to address changes in wholesale power costs. The PPA was established in response to an amendment to KUB’s power supply contract under which, among other things, TVA relinquished its regulatory authority over KUB retail electric rates. The PPA allows KUB to promptly adjust retail electric rates in response to wholesale rate changes or adjustments, thus ensuring that KUB will recover the costs incurred for purchased power. These changes in electric costs are reflected as adjustments to the base electric rates established by the Board. The rate-setting authority vested in the Board by the City Charter meets the “self-regulated” provisions of Statement No. 62, *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements*, and KUB meets the remaining criteria of Statement No. 62.

TVA implemented a fuel cost adjustment in October 2006 applied on a quarterly basis to wholesale power rates. TVA’s quarterly fuel cost adjustment became a monthly fuel cost adjustment effective October 2009. KUB flows changes to wholesale power rates from TVA’s fuel cost adjustment mechanism directly through to its retail electric rates via the PPA.

In April 2011, TVA modified its wholesale rate structure to demand and energy billing for its distributors. In response, KUB revised its PPA to include a deferred accounting component to ensure appropriate matching of revenue and expense and cost recovery. KUB will adjust its retail rates on an annual basis to flow any over or under recovery of wholesale power costs through to its customers via the PPA.

Under the PPA mechanism, KUB tracks the actual over/(under) recovered amount in the Over/(Under) Recovered Purchased Power Costs accounts. These accounts are rolled into the PPA rate adjustments thereby assuring that any over/(under) recovered amounts are promptly passed on to KUB's electric customers. The amount of over/(under) recovered cost was ($1,379,643) at June 30, 2016 and $500,522 at June 30, 2015.

### Recently Issued Accounting Pronouncements

In June 2015, the GASB issued two related Statements that affect accounting and financial reporting by state and local governments for postemployment benefits other than pensions (OPEB). GASB Statement No. 74 (Statement No. 74), *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans,* addresses reporting by OPEB plans that administer benefits on behalf of governments. GASB Statement No. 75 (Statement No. 75), *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions,* addresses reporting by governments that provide OPEB to their employees. Statement No. 74 is effective for fiscal years beginning after June 15, 2016, and Statement No. 75 is effective for fiscal years beginning after June 15, 2017.

In March 2016, the GASB issued GASB Statement No. 82 (Statement No. 82), *Pension Issues – An amendment of GASB Statements No. 67, No. 68 and No. 73*. The objective of this Statement is to address certain issues that have been raised with respect to the presentation of payroll-related measures in required supplementary information, the selection of assumptions and treatment of deviations from the guidance in an Actuarial Standard of Practice for financial reporting purposes and the classification of payments made by employers to satisfy employee contribution obligations. Statement No. 82 is effective for fiscal years beginning after June 15, 2016.

KUB has not elected early implementation of these standards and has not completed the process of evaluating the impact of these statements on its financial statements.

## 3. Deposits and Investments

KUB follows the provisions of Statement No. 40 of the Governmental Accounting Standards Board, *Deposit and Investment Risk Disclosures an amendment of GASB Statement No. 3*. This Statement establishes and modifies disclosure requirements for state and local governments related to deposit and investment risks. KUB classifies its fair value measurements within the fair value hierarchy established by Statement No. 72 of the Governmental Accounting Standards Board, *Fair Value Measurement and Application*.

KUB's investment policy provides the framework for the administration and investment of cash deposits. The investment policy follows Tennessee State law and defines the parameters under which KUB funds should be invested. State law authorizes KUB to invest in obligations of the United States Treasury, its agencies and instrumentalities; certificates of deposit; repurchase agreements; money market funds; and the State Treasurer's Investment Pool.

*Interest Rate Risk.* KUB's primary investment objectives are to place investments in a manner to ensure the preservation of capital, remain sufficiently liquid to meet all operating requirements, and maximize yield of return. KUB minimizes its exposure to interest rate risk by adhering to Tennessee State law requirements for the investment of public funds. This includes limiting investments to those types described above and limiting maturity horizons. The maximum maturity is four years from the date of investment. KUB also limits its exposure by holding investments to maturity unless cash flow requirements dictate otherwise.

*Credit Risk.* KUB's investment policy, as required by state law, is to apply the prudent-person rule: Investments are made with judgment and care, under circumstances then prevailing, which persons of prudence, discretion, and intelligence exercise in the management of their own affairs, not for speculation, but for investment, considering the probable income to be derived, as well as the probable safety of their capital. KUB's Agency Bond investments are rated Aaa by Moody's Investors Service.

*Custodial Credit Risk*. KUB's investment policy limits exposure to custodial credit risk by restricting investments to a standard set forth by State law. All deposits in excess of federal depository insurance limits are collateralized with government securities held in KUB's name by a third-party custodian bank(s) acting as KUB's agent(s), or through the State of Tennessee's collateral pool. Financial institutions that participate in the collateral pool are subject to special assessment; therefore, the deposits are considered insured. A portion of KUB's investments are generally held in the State of Tennessee Local Government Investment Pool (LGIP). The LGIP is a part of the State Pooled Investment Fund and is sponsored by the State of Tennessee Treasury Department. Tennessee Code Annotated ¶9-4-701 *et seq.* authorizes local governments to invest in the LGIP. None of KUB's investments are exposed to custodial credit risk.

Classification of deposits and investments per Statement of Net Position:

| | **2016** | **2015** |
|---|---|---|
| Current assets | | |
| Cash and cash equivalents | $ 34,791,786 | $ 44,471,851 |
| Short-term contingency fund investments | 6,950,668 | 2,478,572 |
| Other assets | | |
| Long-term contingency fund investments | 24,844,482 | 27,664,712 |
| Restricted assets | | |
| Unused bond proceeds | - | 20,519,583 |
| Electric bond fund | 14,739,081 | 12,976,376 |
| Other funds | 10,281 | 21,071 |
| | $ 81,336,298 | $ 108,132,165 |

The above amounts do not include accrued interest of $90,264 in fiscal year 2016 and $61,397 in fiscal year 2015. Interest income is recorded on an accrual basis.

Investments and maturities of KUB's deposits and investments as held by financial institutions as of June 30, 2016:

| | **Deposit and Investment Maturities (in Years)** | | |
|---|---|---|---|
| | **Fair Value** | **Less Than 1** | **1-5** |
| Supersweep NOW and Other Deposits | $ 42,414,914 | $ 42,414,914 | $ - |
| State Treasurer's Investment Pool | 11,368,956 | 11,368,956 | - |
| Agency Bonds | 38,688,375 | 6,950,668 | 31,737,707 |
| Certificates of Deposits | 1,490,000 | 842,500 | 647,500 |
| | $ 93,962,245 | $ 61,577,038 | $ 32,385,207 |

KUB categorizes its fair value measurements within the fair value hierarchy established by Statement No. 72 of the Governmental Accounting Standards Board, *Fair Value Measurement and Application*. The hierarchy is based on the valuation inputs used to measure the fair value of an asset with a maturity at purchase greater than one year. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs.

KUB has the following recurring fair value measurements as of June 30, 2016:

- U.S. Agency bonds of $31,737,707, which have a maturity at purchase of greater than one year, are valued using quoted market prices (Level 1 inputs)
- Certificates of deposits of $647,500, which have a maturity at purchase of greater than one year, are valued at interest rates and yield curves observable at commonly quoted intervals (Level 2 inputs)

KUB measures investments with a maturity at purchase of one year or less at amortized cost, which is considered a fair value equivalent due to their nature. Investments in the State Treasurer's Investment Pool are measured at net asset value (NAV) per share.

## 4. Accounts Receivable

Accounts receivable consists of the following:

| | 2016 | 2015 |
|---|---|---|
| Wholesale and retail customers | | |
| Billed services | $ 30,849,655 | $ 35,223,950 |
| Unbilled services | 20,416,060 | 19,677,853 |
| Other | 3,296,948 | 3,725,400 |
| Allowance for uncollectible accounts | (594,022) | (548,492) |
| | $ 53,968,641 | $ 58,078,711 |

## 5. Accounts Payable and Accruals

Accounts payable and accruals were composed of the following:

| | 2016 | 2015 |
|---|---|---|
| Trade accounts | $ 40,653,044 | $ 42,598,006 |
| Salaries and wages | 1,113,204 | 802,644 |
| Advances on pole rental | 2,135,320 | 1,147,346 |
| Self-insurance liabilities | 843,930 | 815,352 |
| Other current liabilities | 15,217,040 | 14,892,725 |
| | $ 59,962,538 | $ 60,256,073 |

## 6. Long-Term Obligations

Long-term debt consists of the following:

| | Balance June 30, 2015 | Additions | Payments | Defeased | Balance June 30, 2016 | Amounts Due Within One Year |
|---|---|---|---|---|---|---|
| W-2005 - 3.0 - 4.5% | $ 31,350,000 | $ - | $ 1,870,000 | $ - | $ 29,480,000 | $ 1,940,000 |
| X-2006 - 4.0 - 5.0% | 1,825,000 | - | 1,825,000 | - | - | - |
| Y-2009 - 2.5 - 5.0% | 6,875,000 | - | 1,600,000 | - | 5,275,000 | 1,675,000 |
| Z-2010 - 1.45 - 6.35% | 25,205,000 | - | 1,285,000 | - | 23,920,000 | 1,305,000 |
| AA-2012 - 3.0 - 5.0% | 34,840,000 | - | 990,000 | - | 33,850,000 | 2,540,000 |
| BB-2012 - 3.0 - 4.0% | 33,875,000 | - | 650,000 | - | 33,225,000 | 675,000 |
| CC-2013 - 3.0 - 4.0% | 9,535,000 | - | 50,000 | - | 9,485,000 | 450,000 |
| DD-2014 - 2.0 - 4.0% | 40,000,000 | - | 675,000 | - | 39,325,000 | 700,000 |
| EE-2015 - 2.0 - 5.0% | 28,550,000 | - | 125,000 | - | 28,425,000 | 150,000 |
| FF-2015 - 2.0 - 5.0% | 35,000,000 | - | - | - | 35,000,000 | 675,000 |
| Total bonds | $ 247,055,000 | $ - | $ 9,070,000 | $ - | $ 237,985,000 | $ 10,110,000 |
| Unamortized Premium | 10,345,326 | - | 617,044 | - | 9,728,282 | - |
| Total long term debt | $ 257,400,326 | $ - | $ 9,687,044 | $ - | $ 247,713,282 | $ 10,110,000 |

| | Balance June 30, 2014 | Additions | Payments | Defeased | Balance June 30, 2015 | Amounts Due Within One Year |
|---|---|---|---|---|---|---|
| W-2005 - 3.0 - 4.5% | $ 33,140,000 | $ - | $ 1,790,000 | $ - | $ 31,350,000 | $ 1,870,000 |
| X-2006 - 4.0 - 5.0% | 3,550,000 | - | 1,725,000 | - | 1,825,000 | 1,825,000 |
| Y-2009 - 2.5 - 5.0% | 35,900,000 | - | 1,525,000 | 27,500,000 | 6,875,000 | 1,600,000 |
| Z-2010 - 1.45 - 6.35% | 26,470,000 | - | 1,265,000 | - | 25,205,000 | 1,285,000 |
| AA-2012 - 3.0 - 5.0% | 35,795,000 | - | 955,000 | - | 34,840,000 | 990,000 |
| BB-2012 - 3.0 - 4.0% | 34,500,000 | - | 625,000 | - | 33,875,000 | 650,000 |
| CC-2013 - 3.0 - 4.0% | 9,585,000 | - | 50,000 | - | 9,535,000 | 50,000 |
| DD-2014 - 2.0 - 4.0% | - | 40,000,000 | - | - | 40,000,000 | 675,000 |
| EE-2015 - 2.0 - 5.0% | - | 28,550,000 | - | - | 28,550,000 | 125,000 |
| FF-2015 - 2.0 - 5.0% | - | 35,000,000 | - | - | 35,000,000 | - |
| Total bonds | $ 178,940,000 | $ 103,550,000 | $ 7,935,000 | $ 27,500,000 | $ 247,055,000 | $ 9,070,000 |
| Unamortized Premium | 5,779,555 | 5,617,592 | 411,968 | 639,853 | 10,345,326 | - |
| Total long term debt | $ 184,719,555 | $ 109,167,592 | $ 8,346,968 | $ 28,139,853 | $ 257,400,326 | $ 9,070,000 |

Debt service over remaining term of the debt is as follows:

| Fiscal | Total | | Grand |
|---|---|---|---|
| Year | Principal | Interest | Total |
| 2017 | $ 10,110,000 | $ 9,069,156 | $ 19,179,156 |
| 2018 | 10,515,000 | 8,674,203 | 19,189,203 |
| 2019 | 10,955,000 | 8,237,917 | 19,192,917 |
| 2020 | 11,405,000 | 7,785,808 | 19,190,808 |
| 2021 | 11,850,000 | 7,299,291 | 19,149,291 |
| 2022-2026 | 64,365,000 | 28,535,403 | 92,900,403 |
| 2027-2031 | 51,750,000 | 16,522,440 | 68,272,440 |
| 2032-2036 | 20,960,000 | 10,255,208 | 31,215,208 |
| 2037-2041 | 24,775,000 | 6,357,063 | 31,132,063 |
| 2042-2046 | 21,300,000 | 1,722,875 | 23,022,875 |
| Total | $ 237,985,000 | $ 104,459,364 | $ 342,444,364 |

The Division has pledged sufficient revenue, after deduction of all current operating expenses (exclusive of tax equivalents), to meet the revenue bonds principal and interest payments when due. Such bond requirements are being met through monthly deposits to the Electric Bond Fund as required by the bond covenants. As of June 30, 2016, these requirements had been satisfied.

During fiscal year 2006, KUB's Electric Division issued Series W 2005 bonds in part to retire certain existing debt and to fund electric system capital improvements. Concurrent with the issuance of these bonds, KUB transferred funds to an irrevocable trust to pay a portion of the Series U 2001 bonds, as such amounts mature.

During fiscal year 2009, KUB's Electric Division issued Series Y 2009 bonds to fund electric system capital improvements.

During fiscal year 2011, KUB's Electric Division issued Series Z 2010 bonds to fund electric system capital improvements. The bonds were issued as federally taxable Build America Bonds with a 35 percent interest payment rebate to be received from the United States Government for each interest payment. Effective October 1, 2015 these bonds became subject to a 6.8 percent reduction in rebate payment amounts due to the United States Government sequestration. The sequestration is effective until intervening Congressional action, at which time the sequestration rate is subject to change.

During fiscal year 2012, KUB's Electric Division issued Series AA 2012 bonds to retire a portion of outstanding Series V 2004 bonds.

During fiscal year 2013, KUB's Electric Division issued Series BB 2012 bonds to fund electric system capital improvements. KUB's Electric Division also issued Series CC 2013 bonds to retire a portion of outstanding Series X 2006 bonds.

During fiscal year 2015, KUB's Electric Division issued Series EE 2015 bonds to retire a portion of outstanding Series Y 2009 bonds. KUB's Electric Division also issued Series DD 2014 and Series FF 2015 to fund electric system capital improvements.

In prior years, certain revenue bonds were defeased by placing the proceeds of new bonds in an irrevocable trust to provide for all future debt service payments on the old bonds. Accordingly, the liability for the defeased bonds, $27.5 million at June 30, 2016, and the trust account assets are not included in the financial statements.

Other liabilities consist of the following:

| | Balance June 30, 2015 | Increase | Decrease | Balance June 30, 2016 |
|---|---|---|---|---|
| TVA conservation program | $ 10,336,682 | $ 1,174,926 | $ (3,098,755) | $ 8,412,853 |
| Accrued compensated absences | 3,922,730 | 8,454,477 | (8,032,770) | 4,344,437 |
| Customer advances for construction | 1,280,962 | 844,669 | (862,742) | 1,262,889 |
| Other | 220,247 | 96,950 | (158,192) | 159,005 |
| | $ 15,760,621 | $ 10,571,022 | $ (12,152,459) | $ 14,179,184 |

## 7. Lease Commitments

KUB has non-cancelable operating lease commitments for office equipment, property, and vehicles, summarized for the following fiscal years:

| | |
|---|---|
| 2017 | $ 136,464 |
| 2018 | 129,271 |
| 2019 | 75,847 |
| 2020 | 3,931 |
| Total operating minimum lease payments | $ 345,513 |

## 8. Capital Assets

Capital asset activity was as follows:

| | Balance June 30, 2015 | Increase | Decrease | Balance June 30, 2016 |
|---|---|---|---|---|
| **Distribution Plant** | | | | |
| Services and Meters | $ 43,187,323 | $ 824,211 | $ (459,676) | $ 43,551,858 |
| Electric Station Equipment | 125,338,097 | 27,775,476 | (880,406) | 152,233,167 |
| Poles, Towers and Fixtures | 134,306,063 | 14,897,225 | (1,142,671) | 148,060,617 |
| Overhead Conductors | 128,493,727 | 9,622,259 | (1,341,285) | 136,774,701 |
| Line Transformers | 92,547,983 | 5,192,889 | (897,720) | 96,843,152 |
| Other Accounts | 186,274,579 | 9,899,201 | (749,426) | 195,424,354 |
| **Total Distribution Plant** | $ 710,147,772 | $ 68,211,261 | $ (5,471,184) | $ 772,887,849 |
| **General Plant** | 79,748,136 | 7,631,550 | (1,246,538) | 86,133,148 |
| **Total Plant Assets** | $ 789,895,908 | $ 75,842,811 | $ (6,717,722) | $ 859,020,997 |
| Less Accumulated Depreciation | (371,336,117) | (30,854,964) | 7,497,890 | (394,693,191) |
| **Net Plant Assets** | $ 418,559,791 | $ 44,987,847 | $ 780,168 | $ 464,327,806 |
| Work In Progress | 62,237,868 | 60,847,411 | (76,152,949) | 46,932,330 |
| **Total Net Plant** | $ 480,797,659 | $ 105,835,258 | $ (75,372,781) | $ 511,260,136 |

| | Balance June 30, 2014 | Increase | Decrease | Balance June 30, 2015 |
|---|---|---|---|---|
| **Distribution Plant** | | | | |
| Services and Meters | $ 41,235,171 | $ 2,176,349 | $ (224,197) | $ 43,187,323 |
| Electric Station Equipment | 120,964,151 | 6,556,645 | (2,182,699) | 125,338,097 |
| Poles, Towers and Fixtures | 124,328,627 | 12,739,496 | (2,762,060) | 134,306,063 |
| Overhead Conductors | 120,168,100 | 9,163,450 | (837,823) | 128,493,727 |
| Line Transformers | 90,103,801 | 3,298,379 | (854,197) | 92,547,983 |
| Other | 178,735,315 | 8,051,035 | (511,771) | 186,274,579 |
| **Total Distribution Plant** | $ 675,535,165 | $ 41,985,354 | $ (7,372,747) | $ 710,147,772 |
| **General Plant** | 75,386,810 | 5,489,993 | (1,128,667) | 79,748,136 |
| **Total Plant Assets** | $ 750,921,975 | $ 47,475,347 | $ (8,501,414) | $ 789,895,908 |
| Less Accumulated Depreciation | (353,496,822) | (26,741,232) | 8,901,937 | (371,336,117) |
| **Net Plant Assets** | $ 397,425,153 | $ 20,734,115 | $ 400,523 | $ 418,559,791 |
| Work In Progress | 48,069,869 | 62,377,843 | (48,209,844) | 62,237,868 |
| **Total Net Plant** | $ 445,495,022 | $ 83,111,958 | $ (47,809,321) | $ 480,797,659 |

## 9. Risk Management

KUB is exposed to various risks of loss related to active and retiree medical claims; injuries to workers; theft of, damage to, and destruction of assets; environmental damages; and natural disasters. Claims expenditures and liabilities are reported when it is probable that a loss has occurred and the amount of that loss can be reasonably estimated. These losses include an estimate of claims that have been incurred but not reported.

These liabilities are included in accrued expenses in the Statement of Net Position. The liability is KUB's best estimate based on available information. At June 30, 2016 and June 30, 2015, the amount of these liabilities was $843,930 and $815,352, respectively, resulting from the following changes:

| | 2016 | 2015 |
|---|---|---|
| Balance, beginning of year | $ 815,352 | $ 738,983 |
| Current year claims and changes in estimates | 6,744,214 | 6,885,119 |
| Claims payments | (6,715,636) | (6,808,750) |
| Balance, end of year | $ 843,930 | $ 815,352 |

## 10. Pension Plan

### Description of Plan

The Knoxville Utilities Board Pension Plan (the Plan) is a governmental plan as defined by the Employee Retirement Income Security Act of 1974 ("ERISA" or the "Act"), is not subject to any of the provisions of the Act, and was revised January 1, 2014 to include all prior approved amendments. The Plan is a single-employer contributory, defined benefit pension plan established by Knoxville Utilities Board ("KUB") Resolution No. 980 dated February 18, 1999, effective July 1, 1999, as authorized by the Charter of the City of Knoxville §1107(J). The Plan is designed to provide retirement, disability and death benefits to KUB employees. KUB administers the Plan through an Administrative Committee consisting of seven KUB employees that are appointed by KUB's President and CEO. Any amendments to the Plan involving costs not approved in the operating budget must be adopted by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Plan may be approved by KUB's President and CEO upon 60 days notification to the KUB Audit and Finance Committee. The Plan issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017. For purposes of this disclosure, presentation is on a consolidated basis unless division's share is specified.

Effective January 1, 2011, KUB closed the Plan such that persons employed or re-employed by KUB on or after January 1, 2011, are not eligible to participate, but that eligible employees hired prior to January 1, 2011, who have not separated from service, shall continue as Participants and to accrue benefits under the Plan.

Participants in the Plan consisted of the following as of December 31:

| | 2015 | 2014 |
|---|---|---|
| Inactive plan members: | | |
| Terminated vested participants | 39 | 40 |
| Retirees and beneficiaries | 628 | 627 |
| Active plan members | 692 | 725 |
| Total | 1,359 | 1,392 |

### Retirement Benefits

The Plan provides three benefit arrangements for KUB participants, retirees, and beneficiaries.

The Plan provides pension benefits through the Career Equity Program ("CEP") for eligible employees hired on or after January 1, 1999, and for eligible former "City System Plan A" participants who elected CEP coverage as of July 1, 1999. The guaranteed pension benefit payable to a participant who has completed five or more years of service (or reached the normal retirement date, if earlier) upon termination of KUB employment shall be a lump sum equal to the participant's average compensation times their benefit percentage, as defined in the Plan document, or an annuity may be chosen by the participant.

In addition, the Plan provided retirement benefits through "Plan A" for former City System Plan A participants who elected not to participate in the CEP. Plan A is a closed plan and is not available to KUB employees hired after July 1, 1999. Plan A provides for early retirement benefits with 25 years of service and normal retirement benefits at age 62 or later. Benefits provided to Plan A participants include several different forms of monthly annuity payments.

The Plan also provides retirement benefits through "Plan B" for former "City System Plan B" participants. Plan B is a closed plan providing benefits to participants not covered by Social Security. Benefits provided to Plan B participants include several different forms of monthly annuity payments available to participants.

Effective January 1, 2012, KUB began to provide for additional monthly supplements, which will not be subject to cost of living adjustments, to certain former employees and surviving dependents of former employees who are eligible for and have elected coverage under the KUB retiree medical plan and are eligible for Medicare. This was done to address the loss of drug coverage under the KUB retiree medical plan and to assist such individuals in obtaining prescription drug coverage under Medicare Part D.

### Contributions

Participation in Plan A requires employee contributions of 3 percent of the first $4,800 of annual earnings and 5 percent of annual earnings in excess of $4,800. Plan B participants may not make contributions to the Plan. KUB contributions are determined by the enrolled actuary of the Plan and equal the amount necessary to provide the benefits under the Plan determined by the application of accepted actuarial methods and assumptions. The method of funding shall be consistent with Plan objectives.

### Plan Funding

KUB maintains a Funding Policy for the Plan in accordance with Tennessee State Law. The primary goal of the Policy is to document the method KUB has adopted to provide assurance that future KUB and employee contributions and current Plan assets will be sufficient to fund all benefits expected to be paid to current active, inactive and retired Plan participants and their beneficiaries. Per the Funding Policy, KUB fully funds its annual Actuarially Determined Contribution.

## Investments

The Plan's investments are held by State Street Bank and Trust Company (the "Trustee"). The Plan's policy in regard to the allocation of invested assets is established by the Investment Committee and approved by the KUB Board of Commissioners and may only be amended by the KUB Board of Commissioners. It is the policy of the Investment Committee to pursue an investment strategy that reduces risk through the prudent diversification of the portfolio across a broad selection of distinct asset classes. The following was the Plan's adopted asset allocation policy as of December 31, 2015:

| Asset Class | Target Allocation |
|---|---|
| Domestic equity – large cap | 20% - 50% |
| Domestic equity – mid cap | 0% - 15% |
| Domestic equity – small cap | 0% - 15% |
| Domestic equity - convertible securities | 0% - 10% |
| Non-U.S. equity | 0% - 20% |
| Real estate equity | 0% - 10% |
| Fixed income – aggregate bonds | 5% - 25% |
| Fixed income – long-term bonds | 10% - 25% |
| Cash and deposits | 0% - 5% |

Contributions of $5,669,380 and $6,314,399 for 2014 and 2013, respectively, were made during KUB's fiscal years ending June 30, 2016 and 2015, respectively. Of these amounts, $2,721,302 and $3,030,911 are attributable to the Electric Division. The contribution was determined as part of the January 1, 2014 valuation using the Individual Entry Age Normal funding method. The objective under this method is to fund each participant's benefits under the Plan as payments which are level as a percentage of salary, starting on the original participation date (employment date) and continuing until the assumed retirement, termination, disability or death. The actuarial valuation for the Plan year ending December 31, 2015 resulted in an actuarially determined contribution of $4,816,913 for the fiscal year ending June 30, 2017, based on the Plan's current funding policy. The Electric Division's portion of this contribution is $2,312,118.

Subsequent to June 30, 2016, the actuarial valuation for the Plan year ending December 31, 2016 was completed. The actuarial valuation resulted in an actuarially determined contribution of $3,756,283 for the fiscal year ending June 30, 2018, based on the Plan's current funding policy. The Electric Division's portion of this contribution is $1,803,016. For the Plan year ending December 31, 2016, the Plan's actuarial funded ratio was 103.04 percent.

The actuarial valuations for the Plan years ending December 31, 2015 and 2016, which determine the actuarially determined contribution for future fiscal years ending June 30, 2017 and 2018, have not been audited.

## Implementation of GASB 68

In fiscal year 2015, KUB adopted GASB Statement No. 68, *Accounting and Financial Reporting for Pensions – an amendment of GASB Statement No. 27*("GASB 68"), which requires measurement of the net pension liability as total pension liability less the amount of the Plan's fiduciary net position. The amounts reported as of June 30 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2016 and 2015 will be based on the December 31, 2015 and 2014 measurement date, respectively. The Division's share of the net pension liability at June 30, 2016 is $2,419,277 and net pension asset at June 30, 2015 is $2,890,382.

GASB 68 requires certain disclosures related to the net pension liability of the Plan as disclosed below:

| | | **2015** | | **2014** |
|---|---|---|---|---|
| Total pension liability | $ | 204,502,350 | $ | 202,773,764 |
| Plan fiduciary net position | | 199,462,190 | | (208,795,394) |
| Plan's net pension liability (asset) | $ | 5,040,160 | $ | (6,021,630) |
| Plan fiduciary net position as a percentage of the total pension liability | | 97.54% | | 102.97% |

Changes in Net Pension Liability are as follows:

| | | Total Pension Liability (a) | | Increase (Decrease) Plan Fiduciary Net Position (b) | | Net Pension Liability (a) - (b) |
|---|---|---|---|---|---|---|
| Balances at December 31, 2014 | $ | 202,773,764 | $ | 208,795,394 | $ | (6,021,630) |
| Changes for the year: | | | | | | |
| Service cost | | 4,157,062 | | - | | 4,157,062 |
| Interest | | 14,812,784 | | - | | 14,812,784 |
| Differences between Expected and Actual Experience | | (1,890,334) | | - | | (1,890,334) |
| Changes of Assumptions | | - | | - | | - |
| Contributions - employer | | - | | 5,991,887 | | (5,991,887) |
| Contributions - rollovers | | - | | 482,060 | | (482,060) |
| Contributions - member | | - | | 5,486 | | (5,486) |
| Net investment income | | - | | (64,551) | | 64,551 |
| Benefit payments | | (15,350,926) | | (15,350,926) | | - |
| Administrative expense | | - | | (397,160) | | 397,160 |
| Net changes | | 1,728,586 | | (9,333,204) | | 11,061,790 |
| Balances at December 31, 2015 | $ | 204,502,350 | $ | 199,462,190 | $ | 5,040,160 |

*Actuarial Assumptions*

The total pension liability was determined by an actuarial valuation as of December 31, 2015 and 2014, using the following actuarial assumptions, applied to all periods included in the measurement:

| | |
|---|---|
| Actuarial cost method: | Individual entry age |
| Asset valuation method: | 5-year smoothed market |
| Amortization method: | Level dollar closed period with 28 years remaining as of January 1, 2013 and 27 years remaining as of January 1, 2014 |
| Discount rate: | 8% at January 1, 2013 and 7.5% at January 1, 2014 |
| Salary increases: | From 2.58% to 7.92% for January 1, 2013 and from 2.80% to 5.15% for January 1, 2014, based on years of service |
| Mortality: | Sex distinct RP-2000 Combined Mortality projected to 2018 using Scale AA for the January 1, 2013 valuation. Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA for the January 1, 2014 valuation |
| Inflation | 2.8 percent |

The actuarial assumptions used in the December 31, 2015 valuation were based on the results of an actuarial experience study for the period January 1, 2009 through December 31, 2013.

The long-term expected rate of return on Plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the Plan's target asset allocation as of December 31, 2015 and 2014 are summarized in the following table. The real rate of return reported for fixed income is for aggregate fixed income. The Plan has both aggregate and long duration fixed income.

| | **Long Term Expected Real Rate of Return** | |
|---|---|---|
| **Asset Class** | **2015** | **2014** |
| Domestic equity | 7.2% | 6.0% |
| Non-U.S. equity | 7.4% | 7.0% |
| Real estate equity | 6.5% | 5.7% |
| Fixed income | 3.7% | 1.8% |
| Cash and deposits | 2.6% | 0.5% |

*Discount rate*

The discount rate used to measure the total pension liability was 7.5 percent as of January 1, 2015 and 2014. The projection of cash flows used to determine the discount rate assumed that participant contributions will be made at the current contribution rate and that KUB contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

*Sensitivity of the net pension liability to changes in the discount rate*

The following presents the net pension liability of the Plan as of December 31, 2015, calculated using the discount rate of 7.5 percent, as well as what the Plan's net pension liability would be if it were calculated using a discount rate that is one percent lower (6.5 percent) or one percent higher (8.5 percent) than the current rate:

| | **1% Decrease (6.5%)** | **Current Discount Rate (7.5%)** | **1% Increase (8.5%)** |
|---|---|---|---|
| Plan's net pension liability | $ 17,128,897 | $ 5,040,160 | $ (5,963,331) |

### Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the year ended June 30, 2015, KUB recognized pension expense of $2,749,905 (Division's share $1,319,954).

The impact of experience gains or losses and assumption changes on the Total Pension Liability are recognized in expense over the average expected remaining service life of all active and inactive members. As of the measurement date, this recognition period was 3.72 years. However, there were no experience gains or losses, and there were no assumption changes during the measurement year.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment gain of $7,972,887. $1,594,577 of that gain was recognized in the current year and an identical amount will be recognized in each of the next four years, resulting in a deferred inflow of resources of $6,378,310 (Division's share $3,061,589). The table below summarizes the current balances of deferred outflows and deferred inflows of resources along with the net recognition over the next five years. In addition, KUB recorded a deferred outflow of resources of $3,157,199 (Division's share $1,515,455) at June 30, 2015 for employer contributions made between December 31, 2014 and June 30, 2015.

| | Deferred Outflows of Resources | Deferred Inflows of Resources |
|---|---|---|
| Differences between expected and actual experience | $ - | $ - |
| Changes in assumptions | - | - |
| Net difference between projected and actual earnings on pension plan investments | - | 6,378,310 |
| Contributions subsequent to measurement date | 3,157,199 | - |
| Total | $ 3,157,199 | $ 6,378,310 |

For the year ended June 30, 2016, KUB recognized pension expense of $4,665,035 (Division's share $2,239,217).

The impact of experience gains or losses and assumption changes on the Total Pension Liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2014, this average was 5.00 years. During the measurement year, there were no assumption or benefit changes. There was an experience gain of $1,890,334 with $378,067 of that recognized in the current year and in each of the next four years.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment loss of $15,382,915. $3,076,583 of that loss was recognized in the current year and an identical amount will be recognized in each of the next four years. Unrecognized investment gains from prior periods were $6,378,310 of which $1,594,577 was recognized as a reduction in pension expense in the current year.

Experience gains this year created a deferred inflow of resources of $1,512,267 (Division's share $725,888). The combination of unrecognized investment losses this year along with unrecognized net investment gains from prior periods results in a deferred outflow of resources as of December 31, 2015 of $7,522,599 (Division's share $3,610,848). The table below summarizes the current balances of deferred outflows and deferred inflows of resources along with the net recognition over future years. In addition, KUB recorded a deferred outflow of resources of $2,834,692 (Division's share $1,360,652) at June 30, 2016 for employer contributions made between December 31, 2015 and June 30, 2016.

| | Deferred Outflows of Resources | Deferred Inflows of Resources |
|---|---|---|
| Differences between expected and actual experience | $ - | $ 1,512,267 |
| Changes in assumptions | - | - |
| Net difference between projected and actual earnings on pension plan investments | 7,522,599 | - |
| Contributions subsequent to measurement date | 2,834,692 | - |
| Total | $ 10,357,291 | $ 1,512,267 |

Amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:

| Year ended June 30: | |
|---|---|
| 2017 | $ 3,938,630 |
| 2018 | 1,103,939 |
| 2019 | 1,103,938 |
| 2020 | 2,698,517 |
| Thereafter | - |

## 11. Defined Contribution Plan

The KUB Asset Accumulation 401(k) Plan (the "401(k) Plan") is a defined contribution 401(k) employee retirement savings plan covering eligible KUB employees established by the KUB Board of Commissioners in accordance with the Charter of the City of Knoxville, Tennessee. The 401(k) Plan's assets are held in trust under an agreement between KUB and Fidelity Management Trust Company. Employees hired prior to January 1, 2011 may participate and receive a matching contribution of 50 percent of their own contribution up to a maximum match of 3 percent. Employees hired on or after January 1, 2011 have an enhanced 401(k) due to the closure of the Defined Benefit Pension Plan. They may participate and receive a matching contribution of 50 percent of their own contribution up to a maximum match of 3 percent. They also receive a nonelective KUB contribution of from 3 percent to 6 percent, depending on years of service, whether they contribute or not.

Matching contributions were previously remitted to the KUB Pension Plan (a separate defined benefit plan) in the name of the participant for employees hired prior to January 1, 2011. As of December 9, 2015, these Pension match assets moved from the KUB Pension Plan to the 401(k) Plan. Effective December 9, 2015, all matching contributions are remitted to the 401(k) Plan. The match and nonelective contributions for employees hired on or after January 1, 2011 are paid directly by KUB. KUB funded 401(k) matching contributions and nonelective contributions of $1,739,057 (Division's share $834,747) and $1,593,350 (Division's share $764,808), respectively, for the years ended June 30, 2016 and 2015.

## 12. Other Post-Employment Benefits (OPEB)

The Governmental Accounting Standards Board (GASB) established standards for the measurement, recognition, and reporting of other post-employment benefits (OPEB). OPEB includes post-employment benefits other than pension, which, for KUB, is presently limited to post-employment health care. GASB Statement No. 45 (Statement No. 45) requires the recognition of the accrued OPEB liability for the respective year, plus the disclosure of the total unfunded liability.

KUB currently provides post-employment health care benefits to 585 former employees and 593 covered dependents. The cost of coverage is shared with retirees and beneficiaries. KUB recognizes its share of the cost of post-employment health care benefits as an expense as claims are paid.

KUB amended its Group Health Plan in 1999, eliminating post-employment health care benefits for all employees hired on or after July 1, 1999. As of June 30, 2016, 356 active employees were eligible for individual and dependent coverage at separation. To qualify, the employee must meet the Rule of 80 (age plus years of service) with a minimum of 20 years of service, and be enrolled in medical coverage on their last day.

In May 2006, the State of Tennessee adopted Tennessee Code Annotated, Title 8, Chapter 50, Part 12 authorizing governmental entities to establish Trusts for the purpose of pre-funding their respective OPEB liabilities.

Although Statement No. 45 does not require pre-funding of the liability, KUB has determined that it is in the long-term economic interest of KUB and its ratepayers to establish a Trust to pre-fund KUB's OPEB liability.

Knoxville Utilities Board Other Post-Employment Benefits Trust (the “Trust”) is a single-employer Other Post-Employment Benefits Plan established by the Knoxville Utilities Board (KUB) Board of Commissioners through Resolution No. 1168, as amended, dated October 18, 2007. The applicable documentation was submitted to the State Funding Board and, in December 2007, the State Funding Board approved the Trust. The Trust was also approved by the Internal Revenue Service in June 2008. KUB administers the Trust through a Board of Trustees consisting of seven KUB employees that are appointed by KUB's President and CEO. Any amendments to the Trust involving costs not approved in the operating budget must be approved by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Trust may be approved by KUB's President and CEO upon 60 days notification to the KUB Audit and Finance Committee. The investment of all deposits to the Trust is governed by an Investment Policy, which was adopted by the KUB Board and approved by the State Funding Board.

KUB makes annual contributions to the Trust at an actuarially determined rate. Based on the date of retirement, certain retired plan members are required to contribute specified amounts monthly to maintain health insurance. Those who retired prior to July 1983 have no required monthly premiums for themselves or dependents. The retirees, or their surviving dependents, who retired between August 1983 and January 1998 are required to pay $250 per month for pre-Medicare family health insurance. For individuals who retired after January 1998, the required monthly premium for pre-Medicare health insurance is $250 for single coverage and $500 for family coverage. There is currently no premium for Medicare eligible retirees or dependents.

An actuarial valuation of KUB's Postretirement Benefit Plan was performed for the Trust as of January 1, 2014 for fiscal year June 30, 2015 and January 1, 2015 for fiscal year June 30, 2016. The following table presents the OPEB cost for the year, the amount contributed to the Trust, and changes in the net OPEB obligation for fiscal year ending June 30:

| | | 2016 | 2015 |
|---|---|---|---|
| **a)** | Net OPEB Obligation/(Asset) at beginning of fiscal year | $ (174,410) | $ (177,322) |
| **b)** | Annual Required Contribution (ARC) | 953,221 | 3,497,372 |
| **c)** | Interest on Net OPEB Obligation/(Asset) | (13,081) | (14,186) |
| **d)** | Adjustment to ARC | (16,427) | (17,098) |
| **e)** | Annual OPEB Cost **(b+c-d)** | 956,567 | 3,500,284 |
| **f)** | Employer Contributions | 953,221 | 3,497,372 |
| **g)** | Net OPEB Obligation/(Asset) at end of fiscal year **(a+e-f)** | $ (171,064) | $ (174,410) |

KUB's annual OPEB cost, the percentage of annual OPEB cost contributed to the Trust, and the net OPEB obligation for fiscal year 2016 and the two preceding years were as follows:

**Schedule of Employer Contributions**

| Actuarial Valuation Date | Employer Fiscal Year | Annual Required Contribution | Fiscal Year Actual Contribution | Percentage Contributed | Net OPEB Obligation |
|---|---|---|---|---|---|
| 1/1/2012 | 6/30/2014 | 3,327,412 | 4,057,091 | 121.93% | (177,322) |
| 1/1/2013 | 6/30/2015 | 3,497,372 | 3,497,372 | 100.00% | (174,410) |
| 1/1/2014 | 6/30/2016 | 953,221 | 953,221 | 100.00% | (171,064) |

Total contributions to the OPEB Trust for the fiscal year ended June 30, 2016 were $953,221 (Division's share $457,546). The contribution to the Trust was consistent with the annual required contribution, as determined by the Postretirement Benefit Plan's actuarial valuation as of January 1, 2014, which was $953,221 (Division's share $457,546). As of June 30, 2016, the employer's OPEB obligation has been exceeded by $171,064 (Division's share $82,111).

The annual required contribution for the fiscal year ending June 30, 2017, as determined by the Plan's actuarial valuation as of January 1, 2015 is $620,015 (Division's share $297,607).

The actuarial valuation for the Plan as of January 1, 2016 has been completed. The valuation determined that the Plan's actuarial accrued liability was $45,118,624 (Division's share $21,656,940). The actuarial value of the Plan's assets was $48,510,796 (Division's share $23,285,182). As a result, the Plan's unfunded actuarial accrued liability was ($3,392,172) (Division's share ($1,628,243)). The Plan's actuarial funded ratio was 108 percent. Due to the future implementation of GASB 75, the contributions made for fiscal year ending June 30, 2018 will be the actuarially determined contribution instead of the annual required contribution and the actuarial cost method used to determine the contributions will change from the projected unit credit cost method to the entry age normal cost method. The actuarially determined contribution for fiscal year ending June 30, 2018 will be zero. See Required Supplementary Information for OPEB Schedule of Funding Progress.

The actuarial valuations dated January 1, 2015 and 2016, which determine the annual required contribution and actuarially determined contribution for future fiscal years ending June 30, 2017 and 2018, have not been audited.

Actuarial valuations involve estimates of the value of reported amounts and assumptions about the probability of events far into the future, and actuarially determined amounts are subject to continual revision as actual results are compared to past expectations and new estimates are made about the future.

The required schedule of funding progress immediately following the notes to the financial statements presents multi-year trend information about whether the actuarial value of Trust assets is increasing or decreasing over time relative to the actuarial accrued liability for benefits.

Calculations are based on the benefits provided under the terms of the substantive plan in effect at the time of each valuation and on the pattern of sharing of costs between the employer and plan members to that point.

Actuarial calculations reflect a long-term perspective. Consistent with that perspective, actuarial methods and assumptions used include techniques that are designed to reduce short-term volatility in actuarial accrued liabilities and the actuarial value of assets.

Identification of actuarial methods and significant assumptions used to determine the annual required contribution for the fiscal year ending June 30, 2016:

| | |
|---|---|
| I. Actuarial cost method | Projected unit credit cost method |
| II. Actuarial value of assets | Smoothed market value with phase-in method using a smoothing period of 5 years |
| III. Investment return | 7.5%, based on the expected portfolio return |
| Projected salary increases | N/A |
| Healthcare cost Trend: | |
| Medicare | 2014 - 2030+, ranging from 4.5% to 7.45% |
| Non-Medicare | 2014 - 2030+, ranging from 4.5% to 8.75% |
| IV. Amortization method | Level dollar closed (30-year) |
| Remaining amortization period | 22 years |

The Trust issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement Division, P.O. Box 59017, Knoxville, TN 37950-9017.

## 13. Related Party Transactions

The Division, in the normal course of operations, is involved in transactions with the City of Knoxville and with other divisions of KUB. Such transactions for the years ended June 30, 2016 and 2015 are summarized as follows:

| | 2016 | 2015 |
|---|---|---|
| City of Knoxville | | |
| Amounts billed by the Division for utilities and related services | $ 8,675,231 | $ 8,591,649 |
| Payments by the Division in lieu of property tax | 6,979,195 | 6,764,881 |
| Payments by the Division for services provided | 14,497 | 75,417 |
| Other divisions of KUB | | |
| Amounts billed to other divisions for utilities and related services provided | 5,255,288 | 5,530,344 |
| Interdivisional rental expense | - | - |
| Interdivisional rental income | 769,151 | 786,190 |
| Amounts billed to the Division by other divisions for utilities services provided | 197,577 | 212,051 |

With respect to these transactions, accounts receivable from the City of Knoxville included in the balance sheet at year end were:

| | 2016 | 2015 |
|---|---|---|
| Accounts receivable | $ 541,608 | $ 539,053 |

## 14. Other Commitments and Contingencies

In the normal course of business, there are various lawsuits pending against KUB. Management has reviewed these lawsuits with counsel, who is vigorously defending KUB's position and is of the opinion that the ultimate disposition of these matters will not have a material adverse effect on KUB's financial position, results of operations or cash flows.

# Knoxville Utilities Board Electric Division
## Required Supplementary Information – Schedule of Funding Progress
## June 30, 2016
## (Unaudited)

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**Other Post-Employment Benefits (OPEB)**

| Valuation Date | Actuarial Value of Assets (a) | Actuarial Accrued Liability (AAL) (b) | Unfunded Actuarial Accrued Liability (UAAL) (b-a) | Funded Ratio (a)/(b) | Covered Payroll (c) | UAAL as a Percentage of Covered Payroll [(b)-(a)]/(c) |
|---|---|---|---|---|---|---|
| January 1, 2008 | $ - | $ 108,329,141 | $ 108,329,141 | 0% | $ 31,234,509 | 346.8% |
| January 1, 2009 | 14,593,487 | 100,726,738 | 86,133,251 | 14% | 31,846,091 | 270.5% |
| January 1, 2010 | 21,275,643 | 58,475,364 | 37,199,721 | 36% | 30,069,028 | 123.7% |
| January 1, 2011 | 40,749,815 | 64,289,254 | 23,539,439 | 63% | 28,878,791 | 81.5% |
| January 1, 2012 | 37,907,357 | 61,603,466 | 23,696,109 | 62% | 28,269,123 | 83.8% |
| January 1, 2013 | 38,571,803 | 63,341,531 | 24,769,728 | 61% | 27,566,340 | 89.9% |
| January 1, 2014 | 43,409,955 | 46,889,808 | 3,479,853 | 93% | 26,724,154 | 13.0% |
| * January 1, 2015 | 47,705,478 | 47,745,640 | 40,162 | 100% | 25,816,884 | 0.2% |
| * January 1, 2016 | 48,510,796 | 45,118,624 | (3,392,172) | 108% | 25,243,127 | (13.4%) |

***** The actuarial valuations dated January 1, 2015 and 2016, which determine the annual required contribution for future fiscal years ending June 30, 2017 and 2018, have not been audited.

# Knoxville Utilities Board Electric Division
## Required Supplementary Information – Schedule of Changes in Net Pension Liability and Related Ratios
## June 30, 2016
## (Unaudited)

| | Year ended December 31 | |
|---|---|---|
| | **2015** | **2014** |
| **Total pension liability** | | |
| Service cost | $ 4,157,062 | $ 4,092,808 |
| Interest | 14,812,784 | 14,698,657 |
| Differences between expected and actual experience | (1,890,334) | - |
| Benefit payments, including refunds of member contributions | (15,350,926) | (15,533,167) |
| **Net change in total pension liability** | 1,728,586 | 3,258,298 |
| **Total pension liability - beginning** | 202,773,764 | 199,515,466 |
| **Total pension liability - ending (a)** | $ 204,502,350 | $ 202,773,764 |
| **Plan fiduciary net position** | | |
| Contributions - employer | $ 5,991,887 | $ 5,908,541 |
| Contributions - participants | 487,546 | 475,854 |
| Net investment income | (95,430) | 22,292,369 |
| Other additions | 30,879 | 29,733 |
| Benefit payments, including refunds of member contributions | (15,274,926) | (15,405,167) |
| Administrative expense | (397,160) | (378,085) |
| Death benefits | (76,000) | (128,000) |
| **Net change in plan fiduciary net position**** | (9,333,204) | 12,795,245 |
| **Plan fiduciary net position - beginning**** | 208,795,394 | 196,000,149 |
| **Plan fiduciary net position - ending (b)**** | $ 199,462,190 | $ 208,795,394 |
| **Plan's net pension liability - ending (a) - (b)** | $ 5,040,160 | $ (6,021,630) |
| Plan fiduciary net position as a percentage of the total pension liability | 97.54% | 102.97% |
| Covered-employee payroll | $ 50,679,585 | $ 50,246,074 |
| Plan's net pension liability as a percentage of covered-employee payroll | 9.95% | (11.98%) |

**Notes to Schedule:**

* Information not reflected prior to 2014 due to changes in actuary methodologies required under GASB 67, which was implemented in 2014.

** Excludes amounts related to 401(k) matching contributions.

# Knoxville Utilities Board Electric Division
## Required Supplementary Information – Schedule of Employer Pension Contributions
## June 30, 2016
## (Unaudited)

| | Year ended December 31<br>2015 | 2014 |
|---|---|---|
| Annual required contribution | $ 5,991,887 | $ 5,908,541 |
| Contribution in relation to the annual required contribution | 5,991,887 | 5,908,541 |
| Contribution deficiency | $ - | $ - |
| Covered-employee payroll | $ 50,679,585 | $ 50,246,074 |
| Contributions as a percentage of covered-employee payroll | 11.82% | 11.76% |

**Notes to Schedule:**

| | |
|---|---|
| Valuation Dates: | January 1, 2013 and January 1, 2014 |
| Timing: | Actuarially determined contributions for a plan year are based upon 50% of the amounts determined at the actuarial valuations for each of the two prior plan years. |

**Key methods and assumptions used to determine contribution rates:**

| | |
|---|---|
| Actuarial cost method: | Individual entry age |
| Asset valuation method: | 5-year smoothed market |
| Amortization method: | Level dollar closed period with 28 years remaining as of January 1, 2013 and 27 years remaining as of January 1, 2014. |
| Discount rate: | 8% at January 1, 2013 and 7.5% at January 1, 2014 |
| Salary increases: | From 2.58% to 7.92% for January 1, 2013 and from 2.8% to 5.15% for January 1, 2014, based on years of service |
| Mortality: | Sex distinct RP-2000 Combined Mortality projected to 2018 using Scale AA for the Janaury 1, 2013 valuation. Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA for the January 1, 2014 valuation. |
| Inflation: | 2.8 percent |

* Schedule of Employer Contribution information is not reflected prior to 2014 due to changes in actuary methodologies required under GASB 67, which was implemented 2014.

# Knoxville Utilities Board Electric Division
## Supplemental Information –
## Schedule of Expenditures of Federal Awards and State Financial Assistance
## June 30, 2016 Schedule 1

KUB was awarded a grant from Tennessee Emergency Management Agency (as a flow through from FEMA) for reimbursement for costs related to storms in 2015. The schedule below shows the expenditures for the current fiscal year.

| Program Name | Federal/State Agency | CFDA Number | Contract Number | Expenditures |
|---|---|---|---|---|
| U.S. Department of Homeland Security | Tennessee Emergency Management | 97.036 | 34101-06616 | $ 1,325,524 |
| | | Total Program 97.036 | | $ 1,325,524 |
| | | **Total Federal Awards** | | $ 1,325,524 |

NOTE 1 - BASIS OF PRESENTATION

The Schedule of Expenditures of Federal Awards and State Financial Assistance includes the federal award related grant activity of Knoxville Utilities Board and is presented on the accrual basis of accounting. The information in this schedule is presented in accordance with the requirements of Title 2 U.S. Code of Federal Regulations Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards. Therefore, some amounts presented in this schedule may differ from amounts presented in, or used in the preparation of, the basic financial statements.

# Knoxville Utilities Board Electric Division
## Supplemental Information – Schedule of Findings and Questioned Costs
## June 30, 2016 Schedule 2

### Section I -- Summary of Auditors' Results

***Financial Statements***

| | |
|---|---|
| Type of auditors' report issued: | Unmodified |
| Internal control over financial reporting:<br>Material weakness(es) identified? | None reported |
| Significant deficiency(s) identified not considered to be material weaknesses? | None reported |
| Noncompliance material to financial statements: | None reported |

***Federal Awards***

| | |
|---|---|
| Internal control over major programs:<br>Material weakness(es) identified? | None reported |
| Significant deficiency(s) identified not considered to be material weaknesses? | None reported |
| Type of auditors' report issued on compliance for major programs: | Unmodified |
| Any audit findings disclosed that are required to be reported in accordance with Title 2 U.S. Code of Federal Regulations Part 200? | None reported |

Identification of major programs:

| CFDA | Name of Program |
|---|---|
| 97.036 | Tennessee Emergency Management |

| | |
|---|---|
| Dollar threshold used to distinguish between Type A and Type B programs: | $750,000 |
| Auditee qualified as low-risk auditee? | No |

### Section II -- Financial Statement Findings

None reported.

### Section III -- Federal Award Findings and Questioned Costs

None reported.

### Section IV – Summary Schedule of Prior Year Audit Findings

Not applicable as there were no prior year findings reported.

### Section V – Corrective Action Plan

Not applicable as there were no current year findings reported.

# Knoxville Utilities Board Electric Division
## Supplemental Information - Schedule of Insurance in Force
## June 30, 2016
## (Unaudited) Schedule 3

**Insurance coverage is for KUB as a consolidated entity.**

### Crime
Covers losses resulting from employee dishonesty, robbery, burglary, and computer fraud. Limits of coverage - $5,000,000; $250,000 retention.

### Directors' and Officers' Liability Insurance
Covers KUB personnel appropriately authorized to make decisions on behalf of KUB (including but not limited to Commissioners, President and CEO, Senior Vice Presidents, Vice Presidents, and Directors) for wrongful acts. Limits of coverage - $20,000,000; $1,000,000 corporate deductible, $0 individual deductible.

### Employment Practices Liability
Coverage for costs related to actual or alleged employment practices violations for amounts exceeding specified amount ($500,000). Limits of coverage - $10,000,000.

### Fiduciary
Covers losses resulting from wrongful acts related to KUB's Pension, 401(k), and OPEB Trust funds. Limits of coverage - $10,000,000; $150,000 deductible.

### Pollution Legal Liability
New conditions coverage for losses exceeding specified amount per occurrence ($1,000,000). Limits of coverage - $20,000,000.

### Property Insurance
This coverage provides protection of KUB's property for fire, extended coverage, vandalism and malicious mischief, and coverage on boilers and machinery. Also included are flood and earthquake damage and mechanical failure. Limits of coverage - $250,000,000 per occurrence (subject to certain sublimits); $2,500,000 deductible per occurrence.

### Travel Accident
Covers losses related to employees' business travel. Limits of coverage - $1,500,000 aggregate.

### Excess Insurance for General Liability
As a government entity, KUB's liability is limited under the Tennessee Governmental Tort Liability Act (TCA §29-20-403). KUB is self-insured for up to the first $700,000 of any accident and has insurance of $1,000,000 above this retention.

### Excess Insurance for Workers' Compensation
Covers all losses exceeding specified amount per occurrence ($1,000,000). Limits of coverage - Statutory; stop loss coverage applies for aggregate losses over $5,000,000.

### Employee Health Plan Stop Loss Coverage
KUB's employee health plan is self-funded. KUB has purchased stop loss insurance, which covers KUB's exposure to annual expenses in excess of $400,000 per individual participant.

# Knoxville Utilities Board Electric Division

## Supplemental Information - Schedule of Debt Maturities by Fiscal Year
## June 30, 2016
## (Unaudited)

## Schedule 4

Continued on Next Page

| | W-2005 | | Y-2009 | | Z-2010 | | | AA-2012 | |
|---|---|---|---|---|---|---|---|---|---|
| FY | Principal | Interest | Principal | Interest | Principal | Interest | Rebate* | Principal | Interest |
| 16-17 | 1,940,000 | 1,218,606 | 1,675,000 | 151,625 | 1,305,000 | 1,225,919 | 429,072 | 2,540,000 | 1,353,963 |
| 17-18 | 2,015,000 | 1,139,506 | 1,750,000 | 100,250 | 1,330,000 | 1,180,440 | 413,154 | 2,670,000 | 1,223,713 |
| 18-19 | 2,095,000 | 1,057,306 | 1,850,000 | 37,000 | 1,355,000 | 1,128,729 | 395,055 | 2,805,000 | 1,086,838 |
| 19-20 | 2,185,000 | 970,341 | | | 1,390,000 | 1,070,710 | 374,749 | 2,955,000 | 942,838 |
| 20-21 | 2,275,000 | 878,354 | | | 1,425,000 | 1,007,355 | 352,575 | 3,100,000 | 791,463 |
| 21-22 | 2,370,000 | 781,069 | | | 1,470,000 | 939,300 | 328,756 | 3,270,000 | 632,213 |
| 22-23 | 2,470,000 | 678,219 | | | 1,515,000 | 866,145 | 303,151 | 3,415,000 | 482,163 |
| 23-24 | 2,580,000 | 569,294 | | | 1,560,000 | 787,710 | 275,698 | 3,540,000 | 360,763 |
| 24-25 | 2,695,000 | 453,903 | | | 1,615,000 | 703,545 | 246,241 | 3,640,000 | 253,063 |
| 25-26 | 2,820,000 | 333,263 | | | 1,670,000 | 613,180 | 214,614 | 1,105,000 | 180,506 |
| 26-27 | 2,950,000 | 205,201 | | | 1,725,000 | 516,395 | 180,739 | 1,140,000 | 144,025 |
| 27-28 | 3,085,000 | 69,413 | | | 1,785,000 | 413,266 | 144,643 | 1,180,000 | 106,325 |
| 28-29 | | | | | 1,850,000 | 303,738 | 106,308 | 1,225,000 | 65,713 |
| 29-30 | | | | | 1,925,000 | 187,156 | 65,505 | 1,265,000 | 22,138 |
| 30-31 | | | | | 2,000,000 | 63,500 | 22,225 | | |
| 31-32 | | | | | | | | | |
| 32-33 | | | | | | | | | |
| 33-34 | | | | | | | | | |
| 34-35 | | | | | | | | | |
| 35-36 | | | | | | | | | |
| 36-37 | | | | | | | | | |
| 37-38 | | | | | | | | | |
| 38-39 | | | | | | | | | |
| 39-40 | | | | | | | | | |
| 40-41 | | | | | | | | | |
| 41-42 | | | | | | | | | |
| 42-43 | | | | | | | | | |
| 43-44 | | | | | | | | | |
| 44-45 | | | | | | | | | |
| 45-46 | | | | | | | | | |
| Total | $ 29,480,000 | $ 8,354,475 | $ 5,275,000 | $ 288,875 | $ 23,920,000 | $ 11,007,088 | $ 3,852,485 | $ 33,850,000 | $ 7,645,724 |

*Series Z-2010 bonds were issued as federally taxable Build America Bonds. KUB is scheduled to receive a 35 percent interest rebate payment from the United States Government for each interest payment. Effective October 1, 2015 these bonds became subject to a 6.8% reduction in rebate payment amounts due to the United States Government sequestration. The sequestration is effective until intervening Congressional action, at which time the sequestration rate is subject to change.

# Knoxville Utilities Board Electric Division

## Supplemental Information - Schedule of Debt Maturities by Fiscal Year

## June 30, 2016

## (Unaudited)

## Schedule 4

Continued from Previous Page

| | BB-2012 | | CC-2013 | | DD-2014 | | EE-2015 | | FF-2015 | | Total | | Grand Total (P + I) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FY | Principal | Interest | Principal | Interest | Principal | Interest | Principal | Interest | Principal | Interest | Principal | Interest | |
| 16-17 | 675,000 | 1,017,625 | 450,000 | 305,099 | 700,000 | 1,354,369 | 150,000 | 977,450 | 675,000 | 1,464,500 | 10,110,000 | 9,069,156 | 19,179,156 |
| 17-18 | 700,000 | 997,000 | 475,000 | 286,600 | 725,000 | 1,332,994 | 150,000 | 969,950 | 700,000 | 1,443,750 | 10,515,000 | 8,674,203 | 19,189,203 |
| 18-19 | 725,000 | 972,000 | 475,000 | 267,600 | 775,000 | 1,314,369 | 150,000 | 962,450 | 725,000 | 1,411,625 | 10,955,000 | 8,237,917 | 19,192,917 |
| 19-20 | 750,000 | 942,500 | 500,000 | 248,100 | 800,000 | 1,298,619 | 2,075,000 | 937,950 | 750,000 | 1,374,750 | 11,405,000 | 7,785,808 | 19,190,808 |
| 20-21 | 800,000 | 911,500 | 515,000 | 227,800 | 825,000 | 1,282,369 | 2,135,000 | 863,825 | 775,000 | 1,336,625 | 11,850,000 | 7,299,291 | 19,149,291 |
| 21-22 | 825,000 | 879,000 | 540,000 | 206,700 | 875,000 | 1,256,619 | 2,235,000 | 788,100 | 800,000 | 1,297,250 | 12,385,000 | 6,780,251 | 19,165,251 |
| 22-23 | 875,000 | 849,375 | 560,000 | 187,497 | 900,000 | 1,221,119 | 2,300,000 | 708,250 | 825,000 | 1,256,625 | 12,860,000 | 6,249,393 | 19,109,393 |
| 23-24 | 900,000 | 822,750 | 575,000 | 170,475 | 950,000 | 1,184,119 | 2,415,000 | 590,375 | 850,000 | 1,214,750 | 13,370,000 | 5,700,236 | 19,070,236 |
| 24-25 | 950,000 | 795,000 | 590,000 | 153,000 | 975,000 | 1,145,619 | 2,555,000 | 478,900 | 900,000 | 1,171,000 | 13,920,000 | 5,154,030 | 19,074,030 |
| 25-26 | 975,000 | 766,125 | 640,000 | 134,550 | 1,025,000 | 1,110,744 | 2,670,000 | 387,750 | 925,000 | 1,125,375 | 11,830,000 | 4,651,493 | 16,481,493 |
| 26-27 | 1,025,000 | 736,125 | 650,000 | 115,200 | 1,075,000 | 1,079,244 | 2,735,000 | 306,675 | 950,000 | 1,078,500 | 12,250,000 | 4,181,365 | 16,431,365 |
| 27-28 | 1,075,000 | 704,625 | 670,000 | 95,400 | 1,125,000 | 1,046,244 | 2,850,000 | 222,900 | 975,000 | 1,030,375 | 12,745,000 | 3,688,548 | 16,433,548 |
| 28-29 | 1,125,000 | 671,625 | 675,000 | 75,225 | 1,175,000 | 1,011,744 | 2,955,000 | 135,825 | 1,025,000 | 985,500 | 10,030,000 | 3,249,370 | 13,279,370 |
| 29-30 | 1,175,000 | 637,125 | 710,000 | 54,450 | 1,225,000 | 975,744 | 3,050,000 | 45,750 | 1,050,000 | 944,000 | 10,400,000 | 2,866,363 | 13,266,363 |
| 30-31 | 1,225,000 | 601,125 | 725,000 | 32,925 | 1,275,000 | 938,244 | | | 1,100,000 | 901,000 | 6,325,000 | 2,536,794 | 8,861,794 |
| 31-32 | 1,275,000 | 563,625 | 735,000 | 11,023 | 1,325,000 | 897,919 | | | 1,125,000 | 856,500 | 4,460,000 | 2,329,067 | 6,789,067 |
| 32-33 | 1,325,000 | 524,625 | | | 1,375,000 | 854,375 | | | 1,175,000 | 810,500 | 3,875,000 | 2,189,500 | 6,064,500 |
| 33-34 | 1,375,000 | 484,125 | | | 1,450,000 | 808,469 | | | 1,225,000 | 762,500 | 4,050,000 | 2,055,094 | 6,105,094 |
| 34-35 | 1,450,000 | 441,750 | | | 1,500,000 | 759,594 | | | 1,250,000 | 713,000 | 4,200,000 | 1,914,344 | 6,114,344 |
| 35-36 | 1,500,000 | 397,500 | | | 1,575,000 | 707,703 | | | 1,300,000 | 662,000 | 4,375,000 | 1,767,203 | 6,142,203 |
| 36-37 | 1,575,000 | 351,375 | | | 1,650,000 | 652,250 | | | 1,350,000 | 609,000 | 4,575,000 | 1,612,625 | 6,187,625 |
| 37-38 | 1,625,000 | 303,375 | | | 1,725,000 | 593,188 | | | 1,400,000 | 554,000 | 4,750,000 | 1,450,563 | 6,200,563 |
| 38-39 | 1,700,000 | 253,500 | | | 1,800,000 | 531,500 | | | 1,450,000 | 497,000 | 4,950,000 | 1,282,000 | 6,232,000 |
| 39-40 | 1,775,000 | 201,375 | | | 1,875,000 | 462,500 | | | 1,500,000 | 438,000 | 5,150,000 | 1,101,875 | 6,251,875 |
| 40-41 | 1,850,000 | 147,000 | | | 1,950,000 | 386,000 | | | 1,550,000 | 377,000 | 5,350,000 | 910,000 | 6,260,000 |
| 41-42 | 1,950,000 | 90,000 | | | 2,025,000 | 306,500 | | | 1,600,000 | 314,000 | 5,575,000 | 710,500 | 6,285,500 |
| 42-43 | 2,025,000 | 30,375 | | | 2,125,000 | 223,500 | | | 1,675,000 | 248,500 | 5,825,000 | 502,375 | 6,327,375 |
| 43-44 | | | | | 2,225,000 | 136,500 | | | 1,725,000 | 180,500 | 3,950,000 | 317,000 | 4,267,000 |
| 44-45 | | | | | 2,300,000 | 46,000 | | | 1,800,000 | 110,000 | 4,100,000 | 156,000 | 4,256,000 |
| 45-46 | | | | | | | | | 1,850,000 | 37,000 | 1,850,000 | 37,000 | 1,887,000 |
| Total | $ 33,225,000 | $ 16,092,125 | $ 9,485,000 | $ 2,571,644 | $ 39,325,000 | $ 24,918,158 | $ 28,425,000 | $ 8,376,150 | $ 35,000,000 | $ 25,205,125 | $ 237,985,000 | $ 104,459,364 | $ 342,444,364 |

# Knoxville Utilities Board Electric Division
## Supplemental Information - Schedule of Current Rates in Force
## June 30, 2016
## (Unaudited)

**Schedule 5**

| Rate Class | | Base Charge | | | Number of Customers |
|---|---|---|---|---|---|
| **Residential** | | Customer Charge: | $16.60 per month, less Hydro Allocation Credit: $1.60 per month. | | 179,100 |
| | | Energy Charge: | Summer Period | 8.688 cents per kWh per month. | |
| | | | Winter Period | 8.647 cents per kWh per month. | |
| | | | Transition Period | 8.647 cents per kWh per month. | |
| **Commercial/ Industrial** | **A. 1.** | If (a) the higher of (i) the customer's currently effective contract demand, if any, or (ii) its highest billing demand during the latest 12-month period is not more than 50 kWh, and (b) customer's monthly energy takings for any month during such period do not exceed 15,000 kWh: | | | 19,454 |
| | | Customer Charge: | $22.00 per delivery point per month. | | |
| | | Energy Charge: | Summer Period | 10.112 cents per kWh. | |
| | | | Winter Period | 10.071 cents per kWh. | |
| | | | Transition Period | 10.071 cents per kWh. | |
| | **2.** | If (a) the higher of (i) the customer's currently effective contract demand or (ii) its highest billing demand during the latest 12-month period is greater than 50 kW but not more than 1,000 kW, or (b) if the customer's billing demand is less than 50 kW and its energy takings for any month during such period exceed 15,000 kWh: | | | 2,799 |
| | | Customer Charge: | $60.00 per delivery point per month. | | |
| | | Demand Charge: | First 50 kW of billing demand per month, no demand charge. | | |
| | | | Excess over 50 kW of billing demand per month, at | | |
| | | | Summer Period | $13.92 per kW. | |
| | | | Winter Period | $13.13 per kW. | |
| | | | Transition Period | $13.13 per kW. | |
| | | Energy Charge: | Summer Period | First 15,000 kWh per month at 11.487 cents per kWh<br>Additional kWh per month at 5.713 cents per kWh. | |
| | | | Winter Period | First 15,000 kWh per month at 11.446 cents per kWh<br>Additional kWh per month at 5.713 cents per kWh. | |
| | | | Transition Period | First 15,000 kWh per month at 11.446 cents per kWh<br>Additional kWh per month at 5.713 cents per kWh. | |

# Knoxville Utilities Board Electric Division
## Supplemental Information - Schedule of Current Rates in Force
## June 30, 2016
## (Unaudited)
## Schedule 5

| Rate Class | | | | | Number of Customers |
|---|---|---|---|---|---|
| | **3.** | If (a) the higher of the customer's currently effective contract demand or (b) its highest billing demand during the latest 12-month period is greater than 1,000 kW: | | | 51 |
| | | Customer Charge: | $160.00 per delivery point per month. | | |
| | | Demand Charge: | Summer Period | First 1,000 kW of billing demand per month, at $14.23 per kW.<br>Excess over 1,000 kW of billing demand per month, at $15.13 per kW, plus an additional $15.13 per kW per month for each kW, if any, of the amount by which the customer's billing demand exceeds the higher of 2,500 kW or its contract demand. | |
| | | | Winter Period | First 1,000 kW of billing demand per month, at $13.47 per kW.<br>Excess over 1,000 kW of billing demand per month, at $14.37 per kW, plus an additional $14.37 per kW per month for each kW, if any, of the amount by which the customer's billing demand exceeds the higher of 2,500 kW or its contract demand. | |
| | | | Transition Period | First 1,000 kW of billing demand per month, at $13.47 per kW.<br>Excess over 1,000 kW of billing demand per month, at $14.37 per kW, plus an additional $14.37 per kW per month for each kW, if any, of the amount by which the customer's billing demand exceeds the higher of 2,500 kW or its contract demand. | |
| | | Energy Charge: | Summer Period | 6.175 cents per kWh. | |
| | | | Winter Period | 6.175 cents per kWh. | |
| | | | Transition Period | 6.175 cents per kWh. | |

# Knoxville Utilities Board Electric Division

## Supplemental Information - Schedule of Current Rates in Force

## June 30, 2016

## (Unaudited)

## Schedule 5

| Rate Class | | Base Charge | | | Number of Customers |
|---|---|---|---|---|---|
| **Commercial/ Industrial** | **B.** | This rate shall apply to the firm electric power requirements where a customer's currently effective contract demand is greater than 5,000 kW but not more than 15,000 kW: | | | 4 |
| | | Customer Charge: | $1,500 per delivery point per month. | | |
| | | Administrative Charge: | $700 per delivery point per month. | | |
| | | Demand Charge: | | | |
| | | Summer Period | Onpeak Demand | $10.15 per kW per month of the customer's onpeak billing demand, plus | |
| | | | Maximum Demand | $5.56 per kW per month of the customer's maximum billing demand, plus | |
| | | | Excess Demand | $15.71 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher. | |
| | | Winter Period | Onpeak Demand | $9.25 per kW per month of the customer's onpeak billing demand, plus | |
| | | | Maximum Demand | $5.56 per kW per month of the customer's maximum billing demand plus | |
| | | | Excess Demand | $14.81 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher. | |
| | | Transition Period | Onpeak Demand | $9.25 per kW per month of the customer's onpeak billing demand, plus | |
| | | | Maximum Demand | $5.56 per kW per month of the customer's maximum billing demand plus | |
| | | | Excess Demand | $14.81 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher. | |

# Knoxville Utilities Board Electric Division
## Supplemental Information - Schedule of Current Rates in Force
## June 30, 2016
## (Unaudited)

**Schedule 5**

Energy Charge:

| | | |
|---|---|---|
| Summer Period | Onpeak | 9.158 cents per kWh per month for all metered onpeak kWh, plus |
| | Offpeak: Block 1 | 6.827 cents per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus |
| | Block 2 | 2.493 cents per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus |
| | Block 3 | 2.175 cents per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy. |
| Winter Period | Onpeak | 8.094 cents per kWh per month for all metered onpeak kWh, plus |
| | Offpeak: Block 1 | 7.034 cents per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus |
| | Block 2 | 2.493 cents per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus |
| | Block 3 | 2.175 cents per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy. |
| Transition Period | Onpeak | 6.798 cents per kWh per month for all metered onpeak kWh, plus |
| | Offpeak: Block 1 | 6.798 cents per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus |
| | Block 2 | 2.493 cents per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus |
| | Block 3 | 2.175 cents per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy. |

For the Summer Period, Winter Period, and Transition Period, Offpeak Block 1 energy rates less fuel rat of 1.733 cents per kWh per month shall be applied to the portion, if any, of the minimum offpeak energy takings amount that is greater than the metered energy.

# Knoxville Utilities Board Electric Division
## Supplemental Information - Schedule of Current Rates in Force
## June 30, 2016
## (Unaudited)

**Schedule 5**

| **Rate Class** | | **Base Charge** | | | **Number of Customers** |
|---|---|---|---|---|---|
| **Commercial/ Industrial** | **C.** | This rate shall apply to the firm electric power requirements where a customer's currently effective contract demand is greater than 15,000 kW but not more than 25,000 kW: | | | 1 |
| | | Customer Charge: | $1,500 per delivery point per month. | | |
| | | Administrative Charge: | $700 per delivery point per month. | | |
| | | Demand Charge: | | | |
| | | Summer Period | Onpeak Demand | $10.15 per kW per month of the customer's onpeak billing demand, plus | |
| | | | Maximum Demand | $5.27 per kW per month of the customer's maximum billing demand, plus | |
| | | | Excess Demand | $15.42 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher. | |
| | | Winter Period | Onpeak Demand | $9.25 per kW per month of the customer's onpeak billing demand, plus | |
| | | | Maximum Demand | $5.27 per kW per month of the customer's maximum billing demand plus | |
| | | | Excess Demand | $14.52 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher. | |
| | | Transition Period | Onpeak Demand | $9.25 per kW per month of the customer's onpeak billing demand, plus | |
| | | | Maximum Demand | $5.27 per kW per month of the customer's maximum billing demand plus | |
| | | | Excess Demand | $14.52 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher. | |

Energy Charge:

| | | |
|---|---|---|
| Summer Period | Onpeak | 9.158 cents per kWh per month for all metered onpeak kWh, plus |
| | Offpeak: Block 1 | 6.827 cents per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus |
| | Block 2 | 2.493 cents per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus |
| | Block 3 | 2.175 cents per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy. |
| Winter Period | Onpeak | 8.094 cents per kWh per month for all metered onpeak kWh, plus |
| | Offpeak: Block 1 | 7.034 cents per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus |
| | Block 2 | 2.493 cents per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus |
| | Block 3 | 2.175 cents per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy. |
| Transition Period | Onpeak | 6.798 cents per kWh per month for all metered onpeak kWh, plus |
| | Offpeak: Block 1 | 6.798 cents per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus |
| | Block 2 | 2.493 cents per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus |
| | Block 3 | 2.175 cents per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy. |

For the Summer Period, Winter Period, and Transition Period, Offpeak Block 1 energy rates less fuel rate of 1.733 cents per kWh per month shall be applied to the portion, if any, of the minimum offpeak energy takings amount that is greater than the metered energy.

# Knoxville Utilities Board Electric Division

## Supplemental Information - Schedule of Current Rates in Force

## June 30, 2016

## (Unaudited)

## Schedule 5

| Rate Class | | Base Charge | | | Number of Customers |
|---|---|---|---|---|---|
| **Commercial/ Industrial** | **D.** | This rate shall apply to the firm electric power requirements where a customer's currently effective contract demand is greater than 25,000 kW: | | | 1 |
| | | Customer Charge: | $1,500 per delivery point per month. | | |
| | | Administrative Charge: | $700 per delivery point per month. | | |
| | | Demand Charge: | | | |
| | | Summer Period | Onpeak Demand | $10.15 per kW per month of the customer's onpeak billing demand, plus | |
| | | | Maximum Demand | $5.32 per kW per month of the customer's maximum billing demand, plus | |
| | | | Excess Demand | $15.47 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher. | |
| | | Winter Period | Onpeak Demand | $9.25 per kW per month of the customer's onpeak billing demand, plus | |
| | | | Maximum Demand | $5.32 per kW per month of the customer's maximum billing demand plus | |
| | | | Excess Demand | $14.57 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher. | |
| | | Transition Period | Onpeak Demand | $9.25 per kW per month of the customer's onpeak billing demand, plus | |
| | | | Maximum Demand | $5.32 per kW per month of the customer's maximum billing demand plus | |
| | | | Excess Demand | $14.57 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher. | |

# Knoxville Utilities Board Electric Division
## Supplemental Information - Schedule of Current Rates in Force
## June 30, 2016
## (Unaudited)

**Schedule 5**

| | | |
|---|---|---|
| Energy Charge: | | |
| Summer Period | Onpeak | 9.183 cents per kWh per month for all metered onpeak kWh, plus |
| | Offpeak: Block 1 | 6.852 cents per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus |
| | Block 2 | 2.412 cents per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus |
| | Block 3 | 2.200 cents per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy. |
| Winter Period | Onpeak | 8.119 cents per kWh per month for all metered onpeak kWh, plus |
| | Offpeak: Block 1 | 7.059 cents per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus |
| | Block 2 | 2.412 cents per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus |
| | Block 3 | 2.200 cents per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy. |
| Transition Period | Onpeak | 6.823 cents per kWh per month for all metered onpeak kWh, plus |
| | Offpeak: Block 1 | 6.823 cents per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus |
| | Block 2 | 2.412 cents per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus |
| | Block 3 | 2.200 cents per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy. |

For the Summer Period, Winter Period, and Transition Period, Offpeak Block 1 energy rates less fuel rate of 1.733 cents per kWh per month shall be applied to the portion, if any, of the minimum offpeak energy takings amount that is greater than the metered energy.

# Knoxville Utilities Board Electric Division
## Supplemental Information - Schedule of Current Rates in Force
## June 30, 2016
## (Unaudited)

**Schedule 5**

| Rate Class | | Base Charge | | | Number of Customers |
|---|---|---|---|---|---|
| **Commercial/ Industrial Time of Use** | **A.** | This rate shall apply to the firm electric power requirements where a customer's currently effective contract demand is greater than 1,000 kW but not more than 5,000 kW: | | | 3 |
| | | Customer Charge: | $1,500 per delivery point per month. | | |
| | | Administrative Charge: | $700 per delivery point per month. | | |
| | | Demand Charge: | | | |
| | | Summer Period | Onpeak Demand | $10.21 per kW per month of the customer's onpeak billing demand, plus | |
| | | | Maximum Demand | $5.56 per kW per month of the customer's maximum billing demand, plus | |
| | | | Excess Demand | $15.77 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher. | |
| | | Winter Period | Onpeak Demand | $9.31 per kW per month of the customer's onpeak billing demand, plus | |
| | | | Maximum Demand | $5.56 per kW per month of the customer's maximum billing demand plus | |
| | | | Excess Demand | $14.87 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher. | |
| | | Transition Period | Onpeak Demand | $9.31 per kW per month of the customer's onpeak billing demand, plus | |
| | | | Maximum Demand | $5.56 per kW per month of the customer's maximum billing demand plus | |
| | | | Excess Demand | $14.87 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher. | |

Energy Charge:

| | | |
|---|---|---|
| Summer Period | Onpeak | 9.474 cents per kWh per month for all metered onpeak kWh, plus |
| | Offpeak: Block 1 | 6.349 cents per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus |
| | Block 2 | 2.388 cents per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus |
| | Block 3 | 2.104 cents per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy. |
| Winter Period | Onpeak | 8.047 cents per kWh per month for all metered onpeak kWh, plus |
| | Offpeak: Block 1 | 6.626 cents per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus |
| | Block 2 | 2.388 cents per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus |
| | Block 3 | 2.104 cents per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy. |
| Transition Period | Onpeak | 6.737 cents per kWh per month for all metered onpeak kWh, plus |
| | Offpeak: Block 1 | 6.737 cents per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus |
| | Block 2 | 2.388 cents per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus |
| | Block 3 | 2.104 cents per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy. |

For the Summer Period, Winter Period, and Transition Period, Offpeak Block 1 energy rates less fuel rate of 1.733 cents per kWh per month shall be applied to the portion, if any, of the minimum offpeak energy takings amount that is greater than the metered energy.

# Knoxville Utilities Board Electric Division
## Supplemental Information - Schedule of Current Rates in Force
## June 30, 2016
## (Unaudited)
## Schedule 5

| Rate Class | | Base Charge | | | Number of Customers |
|---|---|---|---|---|---|
| **Seasonal** | **B.** | This rate shall apply to the firm electric power requirements where a customer's currently effective contract demand is greater than 5,000 kW but not more than 15,000 kW: | | | - |
| | | Customer Charge: | $1,500 per delivery point per month. | | |
| | | Administrative Charge: | $700 per delivery point per month. | | |
| | | Demand Charge: | Summer Period | $20.18 per kW per month of the customer's billing demand, plus $20.18 per kW per month for each kW of the amount, if any, by which the customer's billing demand exceeds its contract demand. | |
| | | | Winter Period | $17.09 per kW per month of the customer's billing demand, plus $17.09 per kW per month for each kW of the amount, if any, by which the customer's billing demand exceeds its contract demand. | |
| | | | Transition Period | $14.01 per kW per month of the customer's billing demand, plus $14.01 per kW per month for each kW of the amount, if any, by which the customer's billing demand exceeds its contract demand. | |
| | | Energy Charge: | Summer Period | 4.930 cents per kWh per month. | |
| | | | Winter Period | 4.487 cents per kWh per month. | |
| | | | Transition Period | 4.386 cents per kWh per month. | |

| Rate Class | | Base Charge | | | Number of Customers |
|---|---|---|---|---|---|
| **Seasonal** | **C.** | This rate shall apply to the firm electric power requirements where a customer's currently effective contract demand is greater than 15,000 kW but not more than 25,000 kW: | | | - |
| | | Customer Charge: | $1,500 per delivery point per month. | | |
| | | Administrative Charge: | $700 per delivery point per month. | | |
| | | Demand Charge: | Summer Period | $19.89 per kW per month of the customer's billing demand, plus $19.89 per kW per month for each kW of the amount, if any, by which the customer's billing demand exceeds its contract demand. | |
| | | | Winter Period | $16.80 per kW per month of the customer's billing demand, plus $16.80 per kW per month for each kW of the amount, if any, by which the customer's billing demand exceeds its contract demand. | |
| | | | Transition Period | $13.72 per kW per month of the customer's billing demand, plus $13.72 per kW per month for each kW of the amount, if any, by which the customer's billing demand exceeds its contract demand. | |
| | | Energy Charge: | Summer Period | 4.872 cents per kWh per month. | |
| | | | Winter Period | 4.418 cents per kWh per month. | |
| | | | Transition Period | 4.322 cents per kWh per month. | |

# Knoxville Utilities Board Electric Division
## Supplemental Information - Schedule of Current Rates in Force
## June 30, 2016
## (Unaudited)

**Schedule 5**

| Rate Class | | Base Charge | | | Number of Customers |
|---|---|---|---|---|---|
| **Seasonal** | **D.** | This rate shall apply to the firm electric power requirements where a customer's currently effective contract demand is greater than 25,000 kW: | | | - |
| | | Customer Charge: | $1,500 per delivery point per month. | | |
| | | Administrative Charge: | $700 per delivery point per month. | | |
| | | Demand Charge: | Summer Period | $19.94 per kW per month of the customer's billing demand, plus $19.94 per kW per month for each kW of the amount, if any, by which the customer's billing demand exceeds its contract demand. | |
| | | | Winter Period | $16.85 per kW per month of the customer's billing demand, plus $16.85 per kW per month for each kW of the amount, if any, by which the customer's billing demand exceeds its contract demand. | |
| | | | Transition Period | $13.77 per kW per month of the customer's billing demand, plus $13.77 per kW per month for each kW of the amount, if any, by which the customer's billing demand exceeds its contract demand. | |
| | | Energy Charge: | Summer Period | 4.666 cents per kWh per month. | |
| | | | Winter Period | 4.271 cents per kWh per month. | |
| | | | Transition Period | 4.183 cents per kWh per month. | |

# Knoxville Utilities Board Electric Division
## Supplemental Information - Schedule of Current Rates in Force
## June 30, 2016
## (Unaudited)

**Schedule 5**

| Rate Class | | Base Charge | Number of Customers |
|---|---|---|---|
| **Manufacturing** | **B.** | This rate shall apply to the firm electric power requirements where (a) a customer's currently effective contract demand is greater than 5,000 kW but not more than 15,000 kW and (b) the major use of electricity is for activities conducted at the delivery point serving that customer which are classified with a 2-digit Standard Industrial Classification Code between 20 and 39, inclusive, or classified with 2002 North American Industry Classification System (NAICS) code 5181, or 2007 NAICS codes 5182, 522320, and 541214. | 1 |

Customer Charge: $1,500 per delivery point per month.
Administrative Charge: $700 per delivery point per month.
Demand Charge:

| | | |
|---|---|---|
| Summer Period | Onpeak Demand | $9.55 per kW per month of the customer's onpeak billing demand, plus |
| | Maximum Demand | $2.74 per kW per month of the customer's maximum billing demand, plus |
| | Excess Demand | $12.29 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher. |
| Winter Period | Onpeak Demand | $8.65 per kW per month of the customer's onpeak billing demand, plus |
| | Maximum Demand | $2.74 per kW per month of the customer's maximum billing demand plus |
| | Excess Demand | $11.39 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher. |
| Transition Period | Onpeak Demand | $8.65 per kW per month of the customer's onpeak billing demand, plus |
| | Maximum Demand | $2.74 per kW per month of the customer's maximum billing demand plus |
| | Excess Demand | $11.39 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher. |

# Knoxville Utilities Board Electric Division
## Supplemental Information - Schedule of Current Rates in Force
## June 30, 2016
## (Unaudited) Schedule 5

| | | |
|---|---|---|
| Energy Charge: | | |
| Summer Period | Onpeak | 7.334 cents per kWh per month for all metered onpeak kWh, plus |
| | Offpeak: Block 1 | 5.002 cents per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus |
| | Block 2 | 2.232 cents per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus |
| | Block 3 | 1.994 cents per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy. |
| Winter Period | Onpeak | 6.270 cents per kWh per month for all metered onpeak kWh, plus |
| | Offpeak: Block 1 | 5.210 cents per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus |
| | Block 2 | 2.232 cents per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus |
| | Block 3 | 1.994 cents per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy. |
| Transition Period | Onpeak | 5.292 cents per kWh per month for all metered onpeak kWh, plus |
| | Offpeak: Block 1 | 5.292 cents per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus |
| | Block 2 | 2.232 cents per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus |
| | Block 3 | 1.994 cents per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy. |

For the Summer Period, Winter Period, and Transition Period, Offpeak Block 1 energy rates less fuel rate of 1.733 cents per kWh per month shall be applied to the portion, if any, of the minimum offpeak energy takings amount that is greater than the metered energy.

# Knoxville Utilities Board Electric Division
## Supplemental Information - Schedule of Current Rates in Force
## June 30, 2016
## (Unaudited)

**Schedule 5**

| Rate Class | | Base Charge | | | Number of Customers |
|---|---|---|---|---|---|
| **Manufacturing** | **C.** | This rate shall apply to the firm electric power requirements where (a) a customer's currently effective contract demand is greater than 15,000 kW but not more than 25,000 kW and (b) the major use of electricity is for activities conducted at the delivery point serving that customer which are classified with a 2-digit Standard Industrial Classification Code between 20 and 39, inclusive, or classified with 2002 North American Industry Classification System (NAICS) code 5181, or 2007 NAICS codes 5182, 522320, and 541214. | | | 2 |
| | | Customer Charge: | $1,500 per delivery point per month. | | |
| | | Administrative Charge: | $700 per delivery point per month. | | |
| | | Demand Charge: | | | |
| | | Summer Period | Onpeak Demand | $9.55 per kW per month of the customer's onpeak billing demand, plus | |
| | | | Maximum Demand | $2.49 per kW per month of the customer's maximum billing demand, plus | |
| | | | Excess Demand | $12.04 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher. | |
| | | Winter Period | Onpeak Demand | $8.65 per kW per month of the customer's onpeak billing demand, plus | |
| | | | Maximum Demand | $2.49 per kW per month of the customer's maximum billing demand plus | |
| | | | Excess Demand | $11.14 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher. | |
| | | Transition Period | Onpeak Demand | $8.65 per kW per month of the customer's onpeak billing demand, plus | |
| | | | Maximum Demand | $2.49 per kW per month of the customer's maximum billing demand plus | |
| | | | Excess Demand | $11.14 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher. | |

# Knoxville Utilities Board Electric Division
## Supplemental Information - Schedule of Current Rates in Force
## June 30, 2016
## (Unaudited)
## Schedule 5

Energy Charge:

| | | |
|---|---|---|
| Summer Period | Onpeak | 7.229 cents per kWh per month for all metered onpeak kWh, plus |
| | Offpeak: Block 1 | 4.897 cents per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus |
| | Block 2 | 2.365 cents per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus |
| | Block 3 | 2.365 cents per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy. |
| Winter Period | Onpeak | 6.165 cents per kWh per month for all metered onpeak kWh, plus |
| | Offpeak: Block 1 | 5.105 cents per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus |
| | Block 2 | 2.365 cents per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus |
| | Block 3 | 2.365 cents per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy. |
| Transition Period | Onpeak | 5.186 cents per kWh per month for all metered onpeak kWh, plus |
| | Offpeak: Block 1 | 5.186 cents per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus |
| | Block 2 | 2.365 cents per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus |
| | Block 3 | 2.365 cents per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy. |

For the Summer Period, Winter Period, and Transition Period, Offpeak Block 1 energy rates less fuel rate of 1.733 cents per kWh per month shall be applied to the portion, if any, of the minimum offpeak energy takings amount that is greater than the metered energy.

# Knoxville Utilities Board Electric Division
## Supplemental Information - Schedule of Current Rates in Force
## June 30, 2016
## (Unaudited)

## Schedule 5

| Rate Class | | Base Charge | | | Number of Customers |
|---|---|---|---|---|---|
| **Manufacturing** | **D.** | This rate shall apply to the firm electric power requirements where (a) a customer's currently effective contract demand is greater than 25,000 kW and (b) the major use of electricity is for activities conducted at the delivery point serving that customer which are classified with a 2-digit Standard Industrial Classification Code between 20 and 39, inclusive, or classified with 2002 North American Industry Classification System (NAICS) code 5181, or 2007 NAICS codes 5182, 522320, and 541214. | | | 1 |
| | | Customer Charge: | $1,500 per delivery point per month. | | |
| | | Administrative Charge: | $700 per delivery point per month. | | |
| | | Demand Charge: | | | |
| | | Summer Period | Onpeak Demand | $9.55 per kW per month of the customer's onpeak billing demand, plus | |
| | | | Maximum Demand | $2.54 per kW per month of the customer's maximum billing demand, plus | |
| | | | Excess Demand | $12.09 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher. | |
| | | Winter Period | Onpeak Demand | $8.65 per kW per month of the customer's onpeak billing demand, plus | |
| | | | Maximum Demand | $2.54 per kW per month of the customer's maximum billing demand plus | |
| | | | Excess Demand | $11.19 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher. | |
| | | Transition Period | Onpeak Demand | $8.65 per kW per month of the customer's onpeak billing demand, plus | |
| | | | Maximum Demand | $2.54 per kW per month of the customer's maximum billing demand plus | |
| | | | Excess Demand | $11.19 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher. | |

| | | |
|---|---|---|
| Energy Charge: | | |
| Summer Period | Onpeak | 7.042 cents per kWh per month for all metered onpeak kWh, plus |
| | Offpeak: Block 1 | 4.710 cents per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus |
| | Block 2 | 2.231 cents per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus |
| | Block 3 | 2.178 cents per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy. |
| Winter Period | Onpeak | 5.978 cents per kWh per month for all metered onpeak kWh, plus |
| | Offpeak: Block 1 | 4.918 cents per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus |
| | Block 2 | 2.231 cents per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus |
| | Block 3 | 2.178 cents per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy. |
| Transition Period | Onpeak | 4.999 cents per kWh per month for all metered onpeak kWh, plus |
| | Offpeak: Block 1 | 4.999 cents per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus |
| | Block 2 | 2.231 cents per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus |
| | Block 3 | 2.178 cents per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy. |

For the Summer Period, Winter Period, and Transition Period, Offpeak Block 1 energy rates less fuel rate of 1.733 cents per kWh per month shall be applied to the portion, if any, of the minimum offpeak energy takings amount that is greater than the metered energy.

# Knoxville Utilities Board Electric Division
## Supplemental Information - Schedule of Current Rates in Force
## June 30, 2016
## (Unaudited)

**Schedule 5**

| **Rate Class** | | **Base Charge** | | | **Number of Customers** |
|---|---|---|---|---|---|
| **Manufacturing Time of Use** | **A.** | This rate shall apply to the firm electric power requirements where (a) a customer's currently effective contract demand is greater than 1,000 kW but not more than 5,000 kW and (b) the major use of electricity is for activities conducted at the delivery point serving that customer which are classified with a 2-digit Standard Industrial Classification Code between 20 and 39, inclusive, or classified with 2002 North American Industry Classification System (NAICS) code 5181, or 2007 NAICS codes 5182, 522320, and 541214. | | | 1 |
| | | Customer Charge: | $1,500 per delivery point per month. | | |
| | | Administrative Charge: | $700 per delivery point per month. | | |
| | | Demand Charge: | | | |
| | | Summer Period | Onpeak Demand | $9.55 per kW per month of the customer's onpeak billing demand, plus | |
| | | | Maximum Demand | $3.97 per kW per month of the customer's maximum billing demand, plus | |
| | | | Excess Demand | $13.52 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher. | |
| | | Winter Period | Onpeak Demand | $8.65 per kW per month of the customer's onpeak billing demand, plus | |
| | | | Maximum Demand | $3.97 per kW per month of the customer's maximum billing demand plus | |
| | | | Excess Demand | $12.62 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher. | |
| | | Transition Period | Onpeak Demand | $8.65 per kW per month of the customer's onpeak billing demand, plus | |
| | | | Maximum Demand | $3.97 per kW per month of the customer's maximum billing demand plus | |
| | | | Excess Demand | $12.62 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher. | |

Energy Charge:

| | | |
|---|---|---|
| Summer Period | Onpeak | 7.122 cents per kWh per month for all metered onpeak kWh, plus |
| | Offpeak: Block 1 | 4.790 cents per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus |
| | Block 2 | 2.232 cents per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus |
| | Block 3 | 1.994 cents per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy. |
| Winter Period | Onpeak | 6.058 cents per kWh per month for all metered onpeak kWh, plus |
| | Offpeak: Block 1 | 4.998 cents per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus |
| | Block 2 | 2.232 cents per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus |
| | Block 3 | 1.994 cents per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy. |
| Transition Period | Onpeak | 5.080 cents per kWh per month for all metered onpeak kWh, plus |
| | Offpeak: Block 1 | 5.080 cents per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus |
| | Block 2 | 2.232 cents per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus |
| | Block 3 | 1.994 cents per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy. |

For the Summer Period, Winter Period, and Transition Period, Offpeak Block 1 energy rates less fuel rate of 1.733 cents per kWh per month shall be applied to the portion, if any, of the minimum offpeak energy takings amount that is greater than the metered energy.

| **Manufacturing** | | | | | **Number of Customers** |
|---|---|---|---|---|---|
| **Seasonal** | **B.** | This rate shall apply to the firm electric power requirements where (a) a customer's currently effective contract demand is greater than 5,000 kW but not more than 15,000 kW and (b) the major use of electricity is for activities conducted at the delivery point serving that customer which are classified with a 2-digit Standard Industrial Classification Code between 20 and 39, inclusive, or classified with 2002 North American Industry Classification System (NAICS) code 5181, or 2007 NAICS codes 5182, 522320, and 541214. | | | - |
| | | Customer Charge: | $1,500 per delivery point per month. | | |
| | | Administrative Charge: | $700 per delivery point per month. | | |
| | | Demand Charge: | Summer Period | $17.00 per kW per month of the customer's billing demand, plus $17.00 per kW per month for each kW of the amount, if any, by which the customer's billing demand exceeds its contract demand. | |
| | | | Winter Period | $13.91 per kW per month of the customer's billing demand, plus $13.91 per kW per month for each kW of the amount, if any, by which the customer's billing demand exceeds its contract demand. | |
| | | | Transition Period | $10.83 per kW per month of the customer's billing demand, plus $10.83 per kW per month for each kW of the amount, if any, by which the customer's billing demand exceeds its contract demand. | |
| | | Energy Charge: | Summer Period | 4.025 cents per kWh per month. | |
| | | | Winter Period | 3.524 cents per kWh per month. | |
| | | | Transition Period | 3.406 cents per kWh per month. | |

# Knoxville Utilities Board Electric Division
## Supplemental Information - Schedule of Current Rates in Force
## June 30, 2016
## (Unaudited)

**Schedule 5**

| | | | Number of Customers |
|---|---|---|---|
| **Seasonal** | **C.** | This rate shall apply to the firm electric power requirements where (a) a customer's currently effective contract demand is greater than 15,000 kW but not more than 25,000 kW and (b) the major use of electricity is for activities conducted at the delivery point serving that customer which are classified with a 2-digit Standard Industrial Classification Code between 20 and 39, inclusive, or classified with 2002 North American Industry Classification System (NAICS) code 5181, or 2007 NAICS codes 5182, 522320, and 541214. | - |

| | | |
|---|---|---|
| Customer Charge: | $1,500 per delivery point per month. | |
| Administrative Charge: | $700 per delivery point per month. | |
| Demand Charge: | Summer Period | $16.75 per kW per month of the customer's billing demand, plus $16.75 per kW per month for each kW of the amount, if any, by which the customer's billing demand exceeds its contract demand. |
| | Winter Period | $13.66 per kW per month of the customer's billing demand, plus $13.66 per kW per month for each kW of the amount, if any, by which the customer's billing demand exceeds its contract demand. |
| | Transition Period | $10.58 per kW per month of the customer's billing demand, plus $10.58 per kW per month for each kW of the amount, if any, by which the customer's billing demand exceeds its contract demand. |
| Energy Charge: | Summer Period | 3.940 cents per kWh per month. |
| | Winter Period | 3.470 cents per kWh per month. |
| | Transition Period | 3.357 cents per kWh per month. |

# Knoxville Utilities Board Electric Division
## Supplemental Information - Schedule of Current Rates in Force
## June 30, 2016
## (Unaudited)

**Schedule 5**

| **Manufacturing** | | | **Number of Customers** |
|---|---|---|---|
| **Seasonal** | **D.** | This rate shall apply to the firm electric power requirements where (a) a customer's currently effective contract demand is greater than 25,000 kW; and (b) the major use of electricity is for activities conducted at the delivery point serving that customer which are classified with a 2-digit Standard Industrial Classification Code between 20 and 39, inclusive, or classified with 2002 North American Industry Classification System (NAICS) code 5181, or 2007 NAICS codes 5182, 522320, and 541214. | - |

| | | |
|---|---|---|
| Customer Charge: | $1,500 per delivery point per month. | |
| Administrative Charge: | $700 per delivery point per month. | |
| Demand Charge: | Summer Period | $19.94 per kW per month of the customer's billing demand, plus $19.94 per kW per month for each kW of the amount, if any, by which the customer's billing demand exceeds its contract demand. |
| | Winter Period | $16.85 per kW per month of the customer's billing demand, plus $16.85 per kW per month for each kW of the amount, if any, by which the customer's billing demand exceeds its contract demand. |
| | Transition Period | $13.77 per kW per month of the customer's billing demand, plus $13.77 per kW per month for each kW of the amount, if any, by which the customer's billing demand exceeds its contract demand. |
| Energy Charge: | Summer Period | 3.194 cents per kWh per month. |
| | Winter Period | 2.818 cents per kWh per month. |
| | Transition Period | 2.726 cents per kWh per month. |

# Knoxville Utilities Board Electric Division
## Supplemental Information - Schedule of Current Rates in Force
## June 30, 2016
## (Unaudited)

**Schedule 5**

| Rate Class | Base Charge | Number of Customers |
|---|---|---|
| **Outdoor Lighting** | | |
| | **Part A - Charges for Street and Park Lighting Systems, Traffic Signal Systems, and Athletic Field Lighting Installations** | 51 |

| | | |
|---|---|---|
| Energy Charge: | Summer Period | 7.173 cents per kWh per month. |
| | Winter Period | 7.173 cents per kWh per month. |
| | Transition Period | 7.173 cents per kWh per month. |

Facility Charge: The annual facility charge shall be 14.64 percent of the installed cost to KUB's electric system of the facilities devoted to street and park lighting service specified in this Part A. Such installed cost shall be recomputed on July 1 of each year, or more often if substantial changes in the facilities are made. Each month, one-twelfth of the then total annual facility charge shall be billed to the customer. If any part of the facilities has not been provided at the electric system's expense, or if the installed cost of any portion thereof is reflected on the books of another municipality or agency or department, the annual facility charge shall be adjusted to reflect properly the remaining cost to be borne by the electric system.

Customer Charge: $2.50.

**Part B - Charges for Outdoor Lighting for Individual Customers** 1374

**Charges Per Fixture Per Month**

**a.**

| Type of Fixture | (Watts) | (Lumens) | Rated kWh | Facility Charge | Total Lamp Charge |
|---|---|---|---|---|---|
| Mercury Vapor or Incandescent* | 175 | 7,650 | 70 | $ 4.58 | $ 9.60 |
| | 400 | 19,100 | 155 | 6.39 | 17.51 |
| | 1000** | 47,500 | 378 | 10.22 | 37.33 |
| High Pressure Sodium | 100 | 8,550 | 42 | 4.58 | 7.59 |
| | 250 | 23,000 | 105 | 5.43 | 12.96 |
| | 400 | 45,000 | 165 | 6.39 | 18.23 |
| | 1000** | 126,000 | 385 | 10.22 | 37.84 |
| Decorative | 100 | 8,550 | 42 | 5.21 | 8.22 |

* Mercury Vapor and Incandescent fixtures not offered for new service.

** 1,000 watt fixtures not offered for new service.

**b.** Energy Charge: For each lamp size under **a.** above, 7.173 cents per rated kWh per month.

Additional pole charge: $3.00 per pole.

| Rate Class | Base Charge | Number of Customers |
|---|---|---|
| **LED Pilot Program** | Service under the LED Pilot Program shall only be available for select outdoor (security) lighting facilities of governmental entities located in the KUB electric system service territory. Participation in the LED Pilot Program shall be on a voluntary basis. | |
| | **Pilot Program Charges - No Capital Contribution** | - |

The following charges are applicable to those customers participating in the LED Pilot Program, for whom the installed cost of facilities for providing service under the program has been borne by the electric system. The following charges are per LED fixture per month.

| LED Fixture Type | Facility Charge | Rated kWh | Energy Charge Per kWh | Total Charge |
|---|---|---|---|---|
| LED - 150WE - Rectangular Head | $ 12.27 | 38 | $ 0.07173 | $ 15.00 |
| LED - 150WE - Cobra Head | 11.19 | 38 | 0.07173 | 13.92 |
| LED - 250WE - Rectangular Head | $ 14.75 | 57 | $ 0.07173 | $ 18.84 |
| LED - 250WE - Cobra Head | 13.44 | 57 | 0.07173 | 17.53 |

| | | |
|---|---|---|
| | **Pilot Program Charges - Capital Contribution** | - |

The following charges are applicable to those customers participating in the LED Pilot Program, for whom the installed cost of facilities providing service under the program has been borne by the customer. The following charges are per LED fixture per month.

| LED Fixture Type | Facility Charge | Rated kWh | Energy Charge Per kWh | Total Charge |
|---|---|---|---|---|
| LED - 150WE - Rectangular Head | $ 5.29 | 38 | $ 0.07173 | $ 8.02 |
| LED - 150WE - Cobra Head | 5.16 | 38 | 0.07173 | 7.89 |
| LED - 250WE - Rectangular Head | $ 6.15 | 57 | $ 0.07173 | $ 10.24 |
| LED - 250WE - Cobra Head | 5.98 | 57 | 0.07173 | 10.07 |

**Additional pole charge:** $3.00 per pole.

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# Report of Independent Auditors on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with *Government Auditing Standards*

Board of Commissioners
Electric Division of the Knoxville Utilities Board
Knoxville, Tennessee

## Report on the Financial Statements

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the Electric Division (the Division) of the Knoxville Utilities Board, a component unit of the City of Knoxville, Tennessee, as of and for the year ended June 30, 2016, and the related notes to the financial statements, which collectively comprise the Division's basic financial statements, and have issued our report thereon dated October 27, 2016.

## Internal Control over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Division's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Division's internal control. Accordingly, we do not express an opinion on the effectiveness of the Division's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the Division's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Board of Commissioners
Electric Division of the Knoxville Utilities Board
Knoxville, Tennessee

**Compliance and Other Matters**

As part of obtaining reasonable assurance about whether the Division's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

**Purpose of Report**

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Division's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Division's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Coulter & Justus, P.C.

Knoxville, Tennessee
October 27, 2016

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# Report of Independent Auditors on Compliance for Each Major Program and on Internal Control over Compliance Required by the Uniform Guidance

Board of Commissioners
Electric Division of the Knoxville Utilities Board
Knoxville, Tennessee

## Report on Compliance for the Major Federal Program

We have audited the Electric Division (the Division) of the Knoxville Utilities Board's, a component unit of the City of Knoxville, Tennessee, compliance with the types of compliance requirements described in the OMB Compliance Supplement that could have a direct and material effect on the Division's major federal program for the year ended June 30, 2016. The Division's major federal program is identified in the summary of auditor's results section of the accompanying schedule of findings and questioned costs.

## Management's Responsibility

Management is responsible for compliance with federal statutes, regulations, and the terms and conditions of its federal awards applicable to its federal programs.

## Auditor's Responsibility

Our responsibility is to express an opinion on compliance for the Division's major federal program based on our audit of the types of compliance requirements referred to above. We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and the audit requirements of Title 2 U.S. *Code of Federal Regulations* Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Those standards and the Uniform Guidance require that we plan and perform the audit to obtain reasonable assurance about whether noncompliance with the types of compliance requirements referred to above that could have a direct and material effect on a major federal program occurred. An audit includes examining, on a test basis, evidence about the Division's compliance with those requirements and performing such other procedures as we considered necessary in the circumstances.

We believe that our audit provides a reasonable basis for our opinion on compliance for the major federal program. However, our audit does not provide a legal determination of the Division's compliance.

Board of Commissioners
Electric Division of the Knoxville Utilities Board
Knoxville, Tennessee

## Opinion on the Major Federal Program

In our opinion, the Division complied, in all material respects, with the types of compliance requirements referred to above that could have a direct and material effect on each of its major federal programs for the year ended June 30, 2016.

## Report on Internal Control over Compliance

Management of the Division is responsible for establishing and maintaining effective internal control over compliance with the types of compliance requirements referred to above. In planning and performing our audit of compliance, we considered the Division's internal control over compliance with the types of requirements that could have a direct and material effect on the major federal program to determine the auditing procedures that are appropriate in the circumstances for the purpose of expressing an opinion on compliance for the major program and to test and report on internal control over compliance in accordance with the Uniform Guidance, but not for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, we do not express an opinion on the effectiveness of the Division's internal control over compliance.

A *deficiency in internal control over compliance* exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of a federal program on a timely basis. A *material weakness in internal control over compliance* is a deficiency, or combination of deficiencies, in internal control over compliance, such that there is a reasonable possibility that material noncompliance with a type of compliance requirement of a federal program will not be prevented, or detected and corrected, on a timely basis. A *significant deficiency in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance with a type of compliance requirement of a federal program that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over compliance was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies. We did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements of the Uniform Guidance. Accordingly, this report is not suitable for any other purpose.

Coulter & Justus, P.C.

Knoxville, Tennessee
October 27, 2016

APPENDIX C-1

# THE NATURAL GAS DIVISION

# THE NATURAL GAS DIVISION

## INTRODUCTION

The Natural Gas Division has been owned and operated by KUB since 1945 when it purchased the system from City Service Company for $450,000.

## SOURCES OF NATURAL GAS SUPPLY

KUB receives all of its natural gas supply at four different receiving stations, located in West, South, and Southeast Knox County, through an interstate natural gas pipeline owned by East Tennessee Natural Gas (ETNG), a subsidiary of Spectra Energy.

KUB contracts for the purchase, transportation and storage of natural gas to meet the needs of its customers. Annual purchases, including transport volumes, were approximately 12 million dekatherms (Dth) or 12 BCF. Gas is purchased primarily from the Gulf Coast region and is transported via interstate natural gas pipelines directly to KUB for delivery to its customers or is injected into storage for subsequent withdrawal and delivery by KUB during the winter heating season.

KUB maintains baseload (full year) supply contracts with ConocoPhillips (up to 23,000 Dth per day and 5,000 per day, winter only), Shell (up to 9,000 Dth per day), BP Energy (up to 9,000 Dth per day), and CNX Gas (2,500 Dth per day, winter only).

KUB has contracted with interstate natural gas pipelines Tennessee Gas Pipeline (TGP) and East Tennessee Natural Gas (ETNG) for the transportation of its gas supplies. KUB's gas purchases from the Gulf Coast region are transported via TGP (up to 68,289 Dth per day). TGP interconnects with ETNG which delivers the gas directly to KUB. KUB maintains baseload transportation contracts with ETNG for a total of up to 102,863 Dth per day. KUB also maintains winter-term transportation contracts with ETNG for up to an additional 54,518 Dth per day.

KUB's gas purchases during the winter heating season are supplemented by deliveries from its storage inventories. KUB maintains one firm storage contract with the Tennessee Gas Pipeline. The contract provides KUB with storage capacity of 3,325,920 Dth and up to 39,417 Dth of daily deliverability rights over the course of the winter heating season. KUB also maintains a peaking contract with ETNG which provides for 412,000 Dth of liquefied natural gas in storage (LNG) with a maximum deliverability of 54,518 dth per day. KUB also maintains three storage contracts with Saltville Gas Storage Company, which provides 400,000 dth of natural gas storage with a maximum deliverability of 30,000 dth per day.

## NATURAL GAS PRICE RISK MANAGEMENT

Natural gas prices have demonstrated volatility over the years. KUB protects itself from the risk of volatile and adverse gas prices through its Purchased Gas Adjustment (PGA). The PGA adjusts KUB's retail gas rates on a monthly basis to reflect its current purchased gas costs. The PGA provides assurance that KUB will recover its purchased gas costs while not overcharging or undercharging its customers.

The primary concern of KUB in its gas procurement program is to ensure reliability of supply; however, in response to commodity price volatility, KUB has instituted a price risk management program for the purpose of moderating price volatility on behalf of its customers. The primary tool KUB has utilized in managing commodity price risk has been via pricing mechanisms embedded in its supplier contracts whereby KUB can lock in the price of its gas purchases. In 1997, KUB's Board of Commissioners authorized the use of natural gas futures contracts for the purpose of managing natural gas commodity price risk. The authorizing resolution incorporated a Price Risk Management Policy Statement which, among other things, provided for a Price Risk Management Committee to oversee hedging activities. The use of natural gas futures contracts is solely for the purpose of managing the risk of gas price fluctuations and not for the purpose of speculation or making a profit from the buying and selling of futures contracts. For fiscal year 2016, the Natural Gas Division hedged the price on 67% of its total gas purchases via supply contracts. KUB does not utilize natural gas future options as part of its price risk program.

KUB's Alternative Gas Pricing Program enables large industrial/commercial gas customers to have control over the commodity cost of their gas purchases from KUB. Under the program, customers may lock, or have market-priced purchases.

## SEASONAL CASH FLOW MANAGEMENT

In order to manage the seasonality of cash flow for the Natural Gas Division, KUB often utilizes a short term revenue anticipation note (Line of Credit) with a local commercial bank. For fiscal year 2016, KUB Board of Commissioners approved a $10 million line of credit for the Natural Gas Division. KUB did not draw any funds in fiscal year 2016.

## THE NATURAL GAS SYSTEM

KUB's natural gas distribution system service territory covers Knox County with small extensions in Anderson and Loudon counties. As of June 30, 2016, the gas system served 99,808 customers. The gas system includes 284 square miles of gas service territory. Peak capacity for the system is 157,381 dekatherms. The system set a new peak service day in February 2015 at 136,356 dekatherms.

KUB's gas system is relatively new. Approximately 80 percent of gas service mains have been installed in the last 30 years. The gas main system is primarily comprised of plastic mains, which represent over 85 percent of total main in the system. Cast iron and ductile iron main represent less than one percent of the current system. KUB has a cast iron/ductile iron main replacement program.

In December 2013 the KUB Board adopted a resolution endorsing a ten-year funding plan for the gas system's Century II infrastructure management program, similar to the long-term funding plans the Board endorsed for the electric and water systems in 2011. The ten-year plan includes a combination of annual rate increases and periodic debt issues, which will help ensure KUB remains on track in meeting its Century II replacement and maintenance goals for the gas system.

Ten years of Century II funding for the natural gas system will result in the removal of all cast iron and ductile iron gas main from the distribution system, and the system's low pressure steel main replacement program will be 50 percent complete. By the end of the ten-year funding period, gas system pipe will be 93 percent plastic, 3 percent high-pressure steel, and 4 percent low-pressure steel.

In June 2014, the Board approved the initial phase of rate increases in the ten-year funding plan to support the Century II natural gas program. The October 2014 and 2015 rate increases have each provided an additional $1.8 million in annual revenue to help fund infrastructure replacement and maintenance, as will the October 2016 rate increase.

The South Loop project was completed in October 2015, which includes the installation of a new 8-mile transmission main in the southwest portion of KUB's service territory. The South Loop provides additional system capacity to meet the increased natural gas demands of the University of Tennessee, in addition to other potential growth opportunities in that portion of KUB's gas service territory.

## GRID MODERNIZATION

In fiscal year 2015, KUB concluded the smart grid pilot project, of which a portion of the project was funded by the United States Department of Energy Smart Grid Investment Grant (SGIG). This grant was received by KUB in 2009 as part of the American Reinvestment and Recovery Act (ARRA). Based upon the success of that pilot, KUB formed a plan to move forward with a Century II Grid Modernization effort which includes advanced metering for all KUB customers, a telecommunication system linking critical KUB infrastructure, and an increased investment in automation technology to help operate KUB's energy and water distribution systems. Over the course of the next ten years KUB plans to spend $108 million dollars in this effort, of which the Division's share is $14.2 million.

In April 2016, KUB management presented the fiscal year 2017 budget to the KUB Board of Commissioners that accommodates the projected level of capital investment for the fiscal year. The gas rate increases previously adopted by the Board for October 2016, will not be modified. In July 2016, the four-year deployment of advanced meters began. The deployment is funded in large part by debt issues and incremental rate increases.

## PENSION PLAN

### Description of Plan

The Knoxville Utilities Board Pension Plan (the Plan) is a governmental plan as defined by the Employee Retirement Income Security Act of 1974 ("ERISA" or the "Act"), is not subject to any of the provisions of the Act, and was revised January 1, 2014 to include all prior approved amendments. The Plan is a single-employer contributory, defined benefit pension plan established by Knoxville Utilities Board ("KUB") Resolution No. 980 dated February 18, 1999, effective July 1, 1999, as authorized by the Charter of the City of Knoxville §1107(J). The Plan is designed to provide retirement, disability and death benefits to KUB employees. KUB administers the Plan through an Administrative Committee consisting of seven KUB employees that are appointed by

KUB's President and CEO. Any amendments to the Plan involving costs not approved in the operating budget must be adopted by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Plan may be approved by KUB's President and CEO upon 60 days notification to the KUB Audit and Finance Committee. The Plan issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017. For purposes of this disclosure, presentation is on a consolidated basis unless division's share is specified.

Effective January 1, 2011, KUB closed the Plan such that persons employed or re-employed by KUB on or after January 1, 2011, are not eligible to participate, but that eligible employees hired prior to January 1, 2011, who have not separated from service, shall continue as Participants and to accrue benefits under the Plan.

Participants in the Plan consisted of the following as of December 31:

| | 2015 | 2014 |
|---|---|---|
| Inactive plan members: | | |
| Terminated vested participants | 39 | 40 |
| Retirees and beneficiaries | 628 | 627 |
| Active plan members | 692 | 725 |
| Total | 1,359 | 1,392 |

**Retirement Benefits**

The Plan provides three benefit arrangements for KUB participants, retirees, and beneficiaries.

The Plan provides pension benefits through the Career Equity Program ("CEP") for eligible employees hired on or after January 1, 1999, and for eligible former "City System Plan A" participants who elected CEP coverage as of July 1, 1999. The guaranteed pension benefit payable to a participant who has completed five or more years of service (or reached the normal retirement date, if earlier) upon termination of KUB employment shall be a lump sum equal to the participant's average compensation times their benefit percentage, as defined in the Plan document, or an annuity may be chosen by the participant.

In addition, the Plan provided retirement benefits through "Plan A" for former City System Plan A participants who elected not to participate in the CEP. Plan A is a closed plan and is not available to KUB employees hired after July 1, 1999. Plan A provides for early retirement benefits with 25 years of service and normal retirement benefits at age 62 or later. Benefits provided to Plan A participants include several different forms of monthly annuity payments.

The Plan also provides retirement benefits through "Plan B" for former "City System Plan B" participants. Plan B is a closed plan providing benefits to participants not covered by Social Security. Benefits provided to Plan B participants include several different forms of monthly annuity payments available to participants.

Effective January 1, 2012, KUB began to provide for additional monthly supplements, which will not be subject to cost of living adjustments, to certain former employees and surviving dependents of former employees who are eligible for and have elected coverage under the KUB retiree medical plan and are eligible for Medicare. This was done to address the loss of drug coverage under the KUB retiree medical plan and to assist such individuals in obtaining prescription drug coverage under Medicare Part D.

### Contributions

Participation in Plan A requires employee contributions of 3 percent of the first $4,800 of annual earnings and 5 percent of annual earnings in excess of $4,800. Plan B participants may not make contributions to the Plan. KUB contributions are determined by the enrolled actuary of the Plan and equal the amount necessary to provide the benefits under the Plan determined by the application of accepted actuarial methods and assumptions. The method of funding shall be consistent with Plan objectives.

### Plan Funding

KUB maintains a Funding Policy for the Plan in accordance with Tennessee State Law. The primary goal of the Policy is to document the method KUB has adopted to provide assurance that future KUB and employee contributions and current Plan assets will be sufficient to fund all benefits expected to be paid to current active, inactive and retired Plan participants and their beneficiaries. Per the Funding Policy, KUB fully funds its annual Actuarially Determined Contribution.

### Investments

The Plan’s investments are held by State Street Bank and Trust Company (the “Trustee”). The Plan's policy in regard to the allocation of invested assets is established by the Investment Committee and approved by the KUB Board of Commissioners and may only be amended by the KUB Board of Commissioners. It is the policy of the Investment Committee to pursue an investment strategy that reduces risk through the prudent diversification of the portfolio across a broad selection of distinct asset classes. The following was the Plan's adopted asset allocation policy as of December 31, 2015:

| Asset Class | Target Allocation |
|---|---|
| Domestic equity – large cap | 20% - 50% |
| Domestic equity – mid cap | 0% - 15% |
| Domestic equity – small cap | 0% - 15% |
| Domestic equity - convertible securities | 0% - 10% |
| Non-U.S. equity | 0% - 20% |
| Real estate equity | 0% - 10% |
| Fixed income – aggregate bonds | 5% - 25% |
| Fixed income – long-term bonds | 10% - 25% |
| Cash and deposits | 0% - 5% |

Contributions of $5,669,380 and $6,314,399 for 2014 and 2013, respectively, were made during KUB’s fiscal years ending June 30, 2016 and 2015, respectively. Of these amounts, $963,795 and $1,136,592 are attributable to the Gas Division. The contribution was determined as part of the January 1, 2014 valuation using the Individual Entry Age Normal funding method. The objective under this method is to fund each participant’s benefits under the Plan as payments which are level as a percentage of salary, starting on the original participation date (employment date) and continuing until the assumed retirement, termination, disability or death. The actuarial valuation for the Plan year ending December 31, 2015 resulted in an actuarially determined contribution of $4,816,913 for the fiscal year ending June 30, 2017, based on the Plan's current funding policy. The Gas Division's portion of this contribution is $818,875.

Subsequent to June 30, 2016, the actuarial valuation for the Plan year ending December 31, 2016 was completed. The actuarial valuation resulted in an actuarially determined contribution of $3,756,283 for the fiscal year ending June 30, 2018, based on the Plan's current funding policy. The Gas Division's portion of this contribution is $638,568. For the Plan year ending December 31, 2016, the Plan's actuarial funded ratio was 103.04 percent.

The actuarial valuations for the Plan years ending December 31, 2015 and 2016, which determine the actuarially determined contribution for future fiscal years ending June 30, 2017 and 2018, have not been audited.

**Implementation of GASB 68**

In fiscal year 2015, KUB adopted GASB Statement No. 68, *Accounting and Financial Reporting for Pensions – an amendment of GASB Statement No. 27* ("GASB 68"), which requires measurement of the net pension liability as total pension liability less the amount of the Plan's fiduciary net position. The amounts reported as of June 30 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2016 and 2015 will be based on the December 31, 2015 and 2014 measurement date, respectively. The Division's share of the net pension liability at June 30, 2016 is $856,827 and the net pension asset at June 30, 2015 is $1,083,893.

GASB 68 requires certain disclosures related to the net pension liability of the Plan as disclosed below:

| | | **2015** | | **2014** |
|---|---|---|---|---|
| Total pension liability | $ | 204,502,350 | $ | 202,773,764 |
| Plan fiduciary net position | | 199,462,190 | | (208,795,394) |
| Plan's net pension liability (asset) | $ | 5,040,160 | $ | (6,021,630) |
| Plan fiduciary net position as a percentage of the total pension liability | | 97.54% | | 102.97% |

*[balance of page left blank]*

Changes in Net Pension Liability are as follows:

| | Total Pension Liability (a) | Increase (Decrease) Plan Fiduciary Net Position (b) | Net Pension Liability (a) - (b) |
|---|---|---|---|
| Balances at December 31, 2014 | $ 202,773,764 | $ 208,795,394 | $ (6,021,630) |
| Changes for the year: | | | |
| Service cost | 4,157,062 | - | 4,157,062 |
| Interest | 14,812,784 | - | 14,812,784 |
| Differences between Expected and Actual Experience | (1,890,334) | - | (1,890,334) |
| Changes of Assumptions | - | - | - |
| Contributions - employer | - | 5,991,887 | (5,991,887) |
| Contributions - rollovers | - | 482,060 | (482,060) |
| Contributions - member | - | 5,486 | (5,486) |
| Net investment income | - | (64,551) | 64,551 |
| Benefit payments | (15,350,926) | (15,350,926) | - |
| Administrative expense | - | (397,160) | 397,160 |
| Net changes | 1,728,586 | (9,333,204) | 11,061,790 |
| Balances at December 31, 2015 | $ 204,502,350 | $ 199,462,190 | $ 5,040,160 |

*Actuarial Assumptions.* The total pension liability was determined by an actuarial valuation as of December 31, 2015 and 2014, using the following actuarial assumptions, applied to all periods included in the measurement:

| | |
|---|---|
| Actuarial cost method: | Individual entry age |
| Asset valuation method: | 5-year smoothed market |
| Amortization method: | Level dollar closed period with 28 years remaining as of January 1, 2013 and 27 years remaining as of January 1, 2014 |
| Discount rate: | 8% at January 1, 2013 and 7.5% at January 1, 2014 |
| Salary increases: | From 2.58% to 7.92% for January 1, 2013 and from 2.80% to 5.15% for January 1, 2014, based on years of service |
| Mortality: | Sex distinct RP-2000 Combined Mortality projected to 2018 using Scale AA for the January 1, 2013 valuation. Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA for the January 1, 2014 valuation |
| Inflation | 2.8 percent |

The actuarial assumptions used in the December 31, 2015 valuation were based on the results of an actuarial experience study for the period January 1, 2009 through December 31, 2013.

The long-term expected rate of return on Plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the Plan's target asset allocation as of December 31, 2015 and 2015 are summarized in the following table. The real rate of return reported for fixed income is for aggregate fixed income. The Plan has both aggregate and long duration fixed income.

| | Long Term Expected Real Rate of Return | |
|---|---|---|
| **Asset Class** | **2015** | **2014** |
| Domestic equity | 7.2% | 6.0% |
| Non-U.S. equity | 7.4% | 7.0% |
| Real estate equity | 6.5% | 5.7% |
| Fixed income | 3.7% | 1.8% |
| Cash and deposits | 2.6% | 0.5% |

*Discount rate.* The discount rate used to measure the total pension liability was 7.5 percent as of January 1, 2015 and 2014. The projection of cash flows used to determine the discount rate assumed that participant contributions will be made at the current contribution rate and that KUB contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

*Sensitivity of the net pension liability to changes in the discount rate.* The following presents the net pension liability of the Plan as of December 31, 2015, calculated using the discount rate of 7.5 percent, as well as what the Plan's net pension liability would be if it were calculated using a discount rate that is one percent lower (6.5 percent) or one percent higher (8.5 percent) than the current rate:

| | 1% Decrease (6.5%) | Current Discount Rate (7.5%) | 1% Increase (8.5%) |
|---|---|---|---|
| Plan's net pension liability | $ 17,128,897 | $ 5,040,160 | $ (5,963,331) |

## Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the year ended June 30, 2015, KUB recognized pension expense of $2,749,905 (Division's share $494,983).

The impact of experience gains or losses and assumption changes on the Total Pension Liability are recognized in expense over the average expected remaining service life of all active and inactive members. As of the measurement date, this recognition period was 3.72 years. However, there were no experience gains or losses, and there were no assumption changes during the measurement year.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment gain of $7,972,887. $1,594,577 of that gain was recognized in the current year and an identical amount will be recognized in each of the next four years, resulting in a deferred inflow of resources of $6,378,310 (Division’s share $1,148,096). The table below summarizes the current balances of deferred outflows and deferred inflows of resources along with the net recognition over the next five years. In addition, KUB recorded a deferred outflow of resources of $3,157,199 (Division’s share $568,296) at June 30, 2015 for employer contributions made between December 31, 2014 and June 30, 2015.

| | Deferred Outflows of Resources | Deferred Inflows of Resources |
|---|---|---|
| Differences between expected and actual experience | $ - | $ - |
| Changes in assumptions | - | - |
| Net difference between projected and actual earnings on pension plan investments | - | 6,378,310 |
| Contributions subsequent to measurement date | 3,157,199 | - |
| Total | $ 3,157,199 | $ 6,378,310 |

For the year ended June 30, 2016, KUB recognized pension expense of $4,665,035 (Division’s share $793,056).

The impact of experience gains or losses and assumption changes on the Total Pension Liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2014, this average was 5.00 years. During the measurement year, there were no assumption or benefit changes. There was an experience gain of $1,890,334 with $378,067 of that recognized in the current year and in each of the next four years.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment loss of $15,382,915. $3,076,583 of that loss was recognized in the current year and an identical amount will be recognized in each of the next four years. Unrecognized investment gains from prior periods were $6,378,310 of which $1,594,577 was recognized as a reduction in pension expense in the current year.

Experience gains this year created a deferred inflow of resources of $1,512,267 (Division’s share $257,085). The combination of unrecognized investment losses this year along with unrecognized net investment gains from prior periods results in a deferred outflow of resources as of December 31, 2015 of $7,522,599 (Division’s share $1,278,842). The table below summarizes the current balances of deferred outflows and deferred inflows of resources along with the net recognition over future years. In addition, KUB recorded a deferred outflow of resources of $2,834,692 (Division’s share $481,897) at June 30, 2016 for employer contributions made between December 31, 2015 and June 30, 2016.

| | Deferred Outflows of Resources | Deferred Inflows of Resources |
|---|---|---|
| Differences between expected and actual experience | $ - | $ 1,512,267 |
| Changes in assumptions | - | - |
| Net difference between projected and actual earnings on pension plan investments | 7,522,599 | - |
| Contributions subsequent to measurement date | 2,834,692 | - |
| Total | $ 10,357,291 | $ 1,512,267 |

Amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:

| Year ended June 30: | |
|---|---|
| 2017 | $ 3,938,630 |
| 2018 | 1,103,939 |
| 2019 | 1,103,938 |
| 2020 | 2,698,517 |
| Thereafter | - |

## OTHER POST-EMPLOYMENT BENEFITS (OPEB)

The Governmental Accounting Standards Board (GASB) established standards for the measurement, recognition, and reporting of other post-employment benefits (OPEB). OPEB includes post-employment benefits other than pension, which, for KUB, is presently limited to post-employment health care. GASB Statement No. 45 (Statement No. 45) requires the recognition of the accrued OPEB liability for the respective year, plus the disclosure of the total unfunded liability.

KUB currently provides post-employment health care benefits to 585 former employees and 593 covered dependents. The cost of coverage is shared with retirees and beneficiaries. KUB recognizes its share of the cost of post-employment health care benefits as an expense as claims are paid.

KUB amended its Group Health Plan in 1999, eliminating post-employment health care benefits for all employees hired on or after July 1, 1999. As of June 30, 2016, 356 active employees were eligible for individual and dependent coverage at separation. To qualify, the employee must meet the Rule of 80 (age plus years of service) with a minimum of 20 years of service, and be enrolled in medical coverage on their last day.

In May 2006, the State of Tennessee adopted Tennessee Code Annotated, Title 8, Chapter 50, Part 12 authorizing governmental entities to establish Trusts for the purpose of pre-funding their respective OPEB liabilities.

Although Statement No. 45 does not require pre-funding of the liability, KUB has determined that it is in the long-term economic interest of KUB and its ratepayers to establish a Trust to pre-fund KUB's OPEB liability.

Knoxville Utilities Board Other Post-Employment Benefits Trust (the "Trust") is a single-employer Other Post-Employment Benefits Plan established by the Knoxville Utilities Board (KUB) Board of Commissioners through Resolution No. 1168, as amended, dated October 18, 2007. The applicable documentation was submitted to the State Funding Board and, in December 2007, the State Funding Board approved the Trust. The Trust was also approved by the Internal Revenue Service in June 2008. KUB administers the Trust through a Board of Trustees consisting of seven KUB employees that are appointed by KUB's President and CEO. Any amendments to the Trust involving costs not approved in the operating budget must be approved by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Trust may be approved by KUB's President and CEO upon 60 days notification to the KUB Audit and Finance Committee. The investment of all deposits to the Trust is governed by an Investment Policy, which was adopted by the KUB Board and approved by the State Funding Board.

KUB makes annual contributions to the Trust at an actuarially determined rate. Based on the date of retirement, certain retired plan members are required to contribute specified amounts monthly to maintain health insurance. Those who retired prior to July 1983 have no required monthly premiums for themselves or dependents. The retirees, or their surviving dependents, who retired between August 1983 and January 1998 are required to pay $250 per month for pre-Medicare family health insurance. For individuals who retired after January 1998, the required monthly premium for pre-Medicare health insurance is $250 for single coverage and $500 for family coverage. There is currently no premium for Medicare eligible retirees or dependents.

An actuarial valuation of KUB's Postretirement Benefit Plan was performed for the Trust as of January 1, 2014 for fiscal year June 30, 2015 and January 1, 2015 for fiscal year June 30, 2016. The following table presents the OPEB cost for the year, the amount contributed to the Trust, and changes in the net OPEB obligation for fiscal year ending June 30:

| | | **2016** | **2015** |
|---|---|---|---|
| **a)** | Net OPEB Obligation/(Asset) at beginning of fiscal year | $ (174,410) | $ (177,322) |
| **b)** | Annual Required Contribution (ARC) | 953,221 | 3,497,372 |
| **c)** | Interest on Net OPEB Obligation/(Asset) | (13,081) | (14,186) |
| **d)** | Adjustment to ARC | (16,427) | (17,098) |
| **e)** | Annual OPEB Cost **(b+c-d)** | 956,567 | 3,500,284 |
| **f)** | Employer Contributions | 953,221 | 3,497,372 |
| **g)** | Net OPEB Obligation/(Asset) at end of fiscal year **(a+e-f)** | $ (171,064) | $ (174,410) |

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KUB's annual OPEB cost, the percentage of annual OPEB cost contributed to the Trust, and the net OPEB obligation for fiscal year 2016 and the two preceding years were as follows:

**Schedule of Employer Contributions**

| Actuarial Valuation Date | Employer Fiscal Year | Annual Required Contribution | Fiscal Year Actual Contribution | Percentage Contributed | Net OPEB Obligation |
|---|---|---|---|---|---|
| 1/1/2012 | 6/30/2014 | 3,327,412 | 4,057,091 | 121.93% | (177,322) |
| 1/1/2013 | 6/30/2015 | 3,497,372 | 3,497,372 | 100.00% | (174,410) |
| 1/1/2014 | 6/30/2016 | 953,221 | 953,221 | 100.00% | (171,064) |

Total contributions to the OPEB Trust for the fiscal year ended June 30, 2016 were $953,221 (Division's share $162,048). The contribution to the Trust was consistent with the annual required contribution, as determined by the Postretirement Benefit Plan's actuarial valuation as of January 1, 2014, which was $953,221 (Division's share $162,048). As of June 30, 2016, the employer's OPEB obligation has been exceeded by $171,064 (Division's share $29,081).

The annual required contribution for the fiscal year ending June 30, 2017, as determined by the Plan's actuarial valuation as of January 1, 2015 is $620,015 (Division's share $105,403).

The actuarial valuation for the Plan as of January 1, 2016 has been completed. The valuation determined that the Plan's actuarial accrued liability was $45,118,624 (Division's share $7,670,166). The actuarial value of the Plan's assets was $48,510,796 (Division's share $8,246,835). As a result, the Plan's unfunded actuarial accrued liability was ($3,392,172) (Division's share ($576,669)). The Plan's actuarial funded ratio was 108 percent. Due to the future implementation of GASB 75, the contributions made for fiscal year ending June 30, 2018 will be the actuarially determined contribution instead of the annual required contribution and the actuarial cost method used to determine the contributions will change from the projected unit credit cost method to the entry age normal cost method. The actuarially determined contribution for fiscal year ending June 30, 2018 will be zero. See Required Supplementary Information for OPEB Schedule of Funding Progress.

The actuarial valuations dated January 1, 2015 and 2016, which determine the annual required contribution and actuarially determined contribution for future fiscal years ending June 30, 2017 and 2018, have not been audited.

Actuarial valuations involve estimates of the value of reported amounts and assumptions about the probability of events far into the future, and actuarially determined amounts are subject to continual revision as actual results are compared to past expectations and new estimates are made about the future.

The required schedule of funding progress immediately following the notes to the financial statements presents multi-year trend information about whether the actuarial value of Trust assets is increasing or decreasing over time relative to the actuarial accrued liability for benefits.

Calculations are based on the benefits provided under the terms of the substantive plan in effect at the time of each valuation and on the pattern of sharing of costs between the employer and plan members to that point.

Actuarial calculations reflect a long-term perspective. Consistent with that perspective, actuarial methods and assumptions used include techniques that are designed to reduce short-term volatility in actuarial accrued liabilities and the actuarial value of assets.

Identification of actuarial methods and significant assumptions used to determine the annual required contribution for the fiscal year ending June 30, 2016:

| | |
|---|---|
| I. Actuarial cost method | Projected unit credit cost method |
| II. Actuarial value of assets | Smoothed market value with phase-in method using a smoothing period of 5 years |
| III. Investment return | 7.5%, based on the expected portfolio return |
| Projected salary increases | N/A |
| Healthcare cost Trend: | |
| Medicare | 2014 - 2030+, ranging from 4.5% to 7.45% |
| Non-Medicare | 2014 - 2030+, ranging from 4.5% to 8.75% |
| IV. Amortization method | Level dollar closed (30-year) |
| Remaining amortization period | 22 years |

The Trust issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017.

## FISCAL YEAR 2017 FINANCIAL UPDATE

For the five months ending November 30, 2016, KUB's Natural Gas Division recorded a loss of $3 million, which was a $0.4 million greater loss than the same period last fiscal year. Gas sales volumes were 0.5 percent higher than the same period last fiscal year, reflecting mild temperatures both years leading up to the winter heating season.

The Natural Gas Division sold $12 million in revenue bonds in July 2016 for the purpose of funding natural gas system capital improvements. As of November 30, 2016, the Natural Gas Division had $114.1 million in outstanding debt, representing a debt to capitalization ratio of 37.4 percent. The Natural Gas Division's current maximum debt service coverage ratio is projected to be 2.98.

Capital investment in natural gas system infrastructure is projected to be approximately $17 million for Fiscal Year 2017, reflecting KUB's continued commitment to the timely replacement of critical gas system assets, including cast iron, ductile iron, and low-pressure steel main.

## NATURAL GAS RATES

The rate schedules of the Natural Gas Division adopted by the KUB Board of Commissioners contain a purchased gas adjustment (unless specified otherwise) under which the rates are adjusted up or down to reflect the division's current cost of purchased gas. Gas rates are expressed in cents per therm for rate schedules G-2, G-4, and G-6. Rate schedules G-7, G-11, and G-12 are expressed in dollars per dekatherm (one dekatherm is equivalent to ten therms). Rate schedule G-13, the Discount Gas Service Rider, and rate schedule G-14, the Alternative Gas Pricing Rider, are supplements to the division's commercial/industrial rate schedules.

The October 2016 rate schedules of the Natural Gas Division are as follows:

## *RATE SCHEDULE G-2*
## *RESIDENTIAL GAS SERVICE*

### Availability

Service under Rate Schedule G-2 is available only to residential customers served individually through a separate meter. Rate Schedule G-2 shall also be available to a customer with eight or less dwelling units served through a single meter, but in such case the minimum charge and the quantity of gas specified for each block of Rate Schedule G-2 shall be multiplied by the number of individual dwelling units served.

### Net Rates

For the regular monthly billing periods of November through April, inclusive:

| | |
|---|---|
| Customer Charge: | $8.65 |
| Commodity Charge: | $1.0845 per therm for the first 30 therms; plus |
| | $0.8723 per therm for the excess over 30 therms. |

For the regular monthly billing periods of May through October, inclusive:

| | |
|---|---|
| Customer Charge: | $8.65 |
| Commodity Charge: | $0.9058 per therm for the first 50 therms; plus |
| | $0.7872 per therm for the excess over 50 therms. |

### Purchased Gas Adjustment

The Commodity Charge shall be subject to KUB's Purchased Gas Adjustment.

### Minimum Bill

The minimum bill under Rate Schedule G-2 for each regular monthly billing period shall be the Customer Charge.

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

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## *RATE SCHEDULE G-4*
## *COMMERCIAL AND INDUSTRIAL GAS SERVICE*

### Availability

Service under Rate Schedule G-4 is available to any commercial or industrial customer. Unless otherwise approved by KUB, a customer receiving service under Rate Schedule G-4, after previously receiving service under Rate Schedule G-6, shall not be allowed to return to service under Rate Schedule G-6 until at least twelve months have elapsed since service was last received under Rate Schedule G-6.

### Net Rates

Customer Charge: $19.00
Commodity Charge: $1.0165 per therm for the first 250 therms; plus
$0.9019 per therm for the excess over 250 therms.

### Purchased Gas Adjustment

The Commodity Charge shall be subject to KUB's Purchased Gas Adjustment.

### Minimum Bill

The minimum bill for each monthly billing period shall be the Customer Charge.

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

## *RATE SCHEDULE G-6*
## *COMMERCIAL AND INDUSTRIAL GAS SERVICE*

### Availability

Service under Rate Schedule G-6 is available to any commercial or industrial customer that incurs a demand of twenty-seven therms or more during the current monthly billing period or during any of the eleven most recent monthly billing periods. Unless otherwise approved by KUB, a customer receiving service under Rate Schedule G-6, after previously receiving service under Rate Schedule G-4, shall not be allowed to return to service under Rate Schedule G-4 until at least twelve months have elapsed since service was last received under Rate Schedule G-4.

### Net Rates

Customer Charge: $140.00
Demand Charge: $1.90 per therm of demand.

| | |
|---|---|
| Commodity Charge: | $0.6487 per therm for the first 30,000 therms; plus<br>$0.5566 per therm for the excess over 30,000 therms. |

## Purchased Gas Adjustment

The Commodity Charge shall be subject to KUB's Purchased Gas Adjustment.

## Determination of Demand

For the six regular monthly billing periods of November through April, inclusive, herein called the "On Peak Season", the demand shall be the greatest quantity of gas used on any day during the applicable monthly billing period, but not less than eighty percent (80%) of the greatest quantity of gas used on any day in any On Peak Season month in the twelve months ending with the applicable monthly billing period.

For the six regular monthly billing periods of May through October, inclusive, herein called the "Off Peak Season", the demand shall be the greatest quantity of gas used on any day during the applicable monthly billing period, but not less than eighty percent (80%) of the greatest quantity of gas used on any day in any month in the immediately preceding On Peak Season, except (a) the demand for any customer who has used gas under Rate Schedule G-6 during all six months in the immediately preceding On Peak Season shall be eighty percent (80%) of the greatest quantity of gas used on any day in any month in the immediately preceding On Peak Season, and (b) the demand shall be zero for a customer who has used gas under Rate Schedule G-6 during at least three months during the immediately preceding Off Peak Season and has used no gas during the immediately preceding On Peak Season.

At the option of KUB, the demand shall be determined either (a) by demand type meter, or (b) by electronic measuring device, or (c) by test, or (d) by estimate. If determined by estimate, the demand shall be considered to be equal to five percent (5%) of the total quantity of gas used during the applicable monthly billing period.

## Minimum Bill

The minimum bill for each monthly billing period shall be the sum of the Customer Charge and the Demand Charge.

## Rules and Regulations

Service is subject to Rules and Regulations of KUB.

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# *RATE SCHEDULE G-7*
# *INTERRUPTIBLE LARGE COMMERCIAL AND INDUSTRIAL SERVICE*

## Definitions

"Customer" means a person or entity contracting with or otherwise receiving service from KUB for interruptible gas service under Rate Schedule G-7.

"Day" means a period of twenty-four (24) consecutive hours, beginning and ending at 10:00 A.M. prevailing Knoxville time or such other period as may be established by the applicable connecting pipeline(s) to KUB's system.

"Delivery" means the delivery of Transport Gas or Supplemental Gas to KUB.

"Firm Gas" means the amount of gas designated as such in a written contract between KUB and the Customer; Firm Gas is not subject to interruption or curtailment except for emergency or other causes as provided in KUB's Rules and Regulations.

"Interruptible Gas" means that gas which is subject to interruption or curtailment by KUB at any time and to the extent that KUB, in its sole discretion, deems desirable.

"Notice of Interruption" means the notice given by KUB to a Customer that a Period of Interruption has commenced or will commence.

"Period of Interruption" means any period of time during which KUB shall interrupt or curtail the delivery of gas to the Customer.

"Redelivery" means the delivery of Transport Gas or Supplemental Gas to the Customer by KUB.

"Supplemental Gas" means gas procured by KUB for the account of a Customer for Delivery to KUB and Redelivery to the Customer.

"Transport Gas" means gas purchased by a Customer from a supplier other than KUB that the Customer has arranged to have Delivered to KUB for Redelivery to the Customer.

"Unauthorized Gas" means the quantity of gas taken by Customer exceeding the amount which is permitted during a Period of Interruption.

## Availability

Service under Rate Schedule G-7 is available to any customer who meets the following conditions:

(a) Customer's annual Interruptible Gas use, on an actual or projected basis, shall not be less than 25,000 dekatherms (one dekatherm is equivalent to ten therms);

(b) Customer shall be permitted to purchase only one (1) dekatherm of Firm Gas under Rate Schedule G-7 for each two (2) dekatherms of Interruptible Gas which are purchased;

(c) Customer must have standby equipment of sufficient capacity capable of providing Customer's normal gas service requirements for a period of five (5) working days without replenishment when Interruptible Gas is completely interrupted. Customer shall maintain such equipment ready for operation at any time and shall utilize a fuel other than gas furnished by KUB and shall be subject to periodic inspections by KUB to ensure compliance with this provision; and

(d) KUB must determine that its existing distribution system facilities are adequate and available for the requested service.

In the event Customer shall fail at any time to continue to meet the conditions (a) through (c), service under Rate Schedule G-7 shall no longer be available; but at KUB's option, gas service may be provided to the Customer under Rate Schedule G-6.

Notwithstanding the foregoing, any Customer receiving service under Rate Schedule G-7 immediately prior to September 1, 1992 may continue to receive service under Rate Schedule G-7 without fulfilling each of the above stated conditions until such time as service to Customer is terminated or Customer begins receiving gas service under a different rate schedule. Such Customer shall continue to comply with any conditions in effect prior to September 1, 1992.

## Character of Service

Interruptible Gas shall be available only to the extent that KUB has gas available that is not required by firm customers. If a Customer is served by gas purchased on an interruptible rate from KUB's suppliers, all conditions imposed by KUB's suppliers on the use of such Interruptible Gas shall likewise apply to such Customer as if KUB imposed the condition on the Customer.

## Transportation Service

During any Period of Interruption, Customer may request Transportation Service from KUB whereby Customer may either (i) purchase Transport Gas and arrange to Deliver such Transport Gas to KUB via any connected interstate natural gas pipeline to one or more of KUB’s designated delivery points for Redelivery to the Customer or (ii) solicit the service of KUB in procuring Supplemental Gas for Customer whereby upon agreeing to provide such service, KUB will attempt to: (a) procure Supplemental Gas on the open market for the account of Customer; (b) arrange for such Supplemental Gas to be transported at Customer’s cost via connecting interstate natural gas pipelines to one or more of KUB’s designated delivery points, and (c) Redeliver such Supplemental Gas to Customer.

Redeliveries by KUB to Customer are subject to interruption when, in the sole discretion of KUB, conditions warrant a suspension of Transportation Service.

Prior to the commencement of a Period of Interruption or within a reasonable period of time subsequent to the commencement of a Period of Interruption, as determined by KUB in its sole discretion, Customer must: (a) notify KUB of its intent to receive Transportation Service from KUB and (b) provide KUB with a schedule showing the proposed daily volumes to be delivered to KUB and Redelivered to the Customer. KUB shall notify Customer of those volumes KUB has approved on a daily basis for Delivery to KUB and Redelivery to Customer (Approved Daily Volumes) prior to the Delivery of any gas to KUB. KUB reserves the right to adjust the Approved Daily Volumes as conditions warrant. KUB shall notify Customer promptly of any adjustment in the Approved Daily Volumes.

KUB shall not be obligated to Redeliver any volumes of gas to Customer: (a) in excess of the Customer's Approved Daily Volumes and (b) in the case of Transport Gas, for which KUB has not received a confirmation of receipt from the applicable connecting pipeline on any given Day.

Transportation Service under this Rate Schedule shall be subject to the following charges, as applicable: (a) the Commodity Charge, as set forth in the Rate Schedule, for Redeliveries of Supplemental Gas to Customer, and (b) the Transportation Charge, as set forth in this Rate Schedule, for Redeliveries to Customer.

Upon conclusion of Customer's Period of Interruption, if total previous Deliveries of Transport Gas or Supplemental Gas to KUB exceeds total Redeliveries of Transport Gas or Supplemental Gas to Customer by KUB, as applicable, the excess will be treated as the first gas (excluding Firm Gas) through Customer's meter following Customer's Period of Interruption. Gas purchased or transported under Rate Schedule G-7 shall be used only by the Customer at its facilities and shall be delivered at a single point of delivery located within the service area of KUB and shall not be resold by the Customer.

## Quantities of Gas Delivered

For the purpose of allocating the daily volume of gas delivered to a Customer under this rate schedule, the first gas delivered shall be considered Firm Gas up to the daily quantity contracted for as Firm Gas, the next gas delivered shall be the Approved Daily Volumes of Transport Gas or Supplemental Gas for that Day, as applicable, and all additional gas delivered shall be considered Interruptible Gas except during a Period of Interruption, then all additional gas delivered shall be considered Unauthorized Gas.

## Net Rates

Customer Charge: $350.00
Demand Charge: $19.00 per dekatherm of demand.
Commodity Charge:
    For Firm Gas - $5.566 per dekatherm.
    For Interruptible Gas - $4.916 for the first 3,000 dekatherms; plus $4.329 for each dekatherm from 3,000 to and including 20,000 dekatherms; plus $3.547 for each dekatherm from 20,000 to and including 50,000 dekatherms; plus $3.282 for the excess over

50,000 dekatherms.

For Supplemental Gas - The Commodity Charge for Supplemental Gas shall be the total of: (a) the cost per dekatherm to KUB for the applicable Day of acquiring Supplemental Gas on the open market, subject to the approval of the Customer to purchase Supplemental Gas at or above such price and (b) the costs incurred by KUB in transporting such Supplemental Gas via connecting pipelines to one or more of KUB’s delivery points.

Transportation Charge - $2.064 per dekatherm for the first 3,000 dekatherms of gas Redelivered plus Unauthorized Gas; plus $1.477 per dekatherm for each dekatherm from 3,000 to and including 20,000 dekatherms of gas Redelivered plus Unauthorized Gas; plus $.695 per dekatherm for each dekatherm from 20,000 to and including 50,000 dekatherms of gas Redelivered plus Unauthorized Gas; plus $.430 per dekatherm for the excess over 50,000 dekatherms of gas Redelivered plus Unauthorized Gas.

Unauthorized Gas Charge - $15.00 per dekatherm of Unauthorized Gas as a penalty, plus the total of: (a) the cost per dekatherm of obtaining such gas on the open market as determined by the higher of (1) the applicable Gulf Coast Price Index for the applicable Day as published in Gas Daily or, if Gas Daily is no longer published, in a comparable reliable source for natural gas prices or (2) the applicable first of the month Gulf Coast Price Index as published in INSIDE FERC, or if INSIDE FERC is no longer published, in a comparable reliable source for natural gas prices and (b) the costs incurred by KUB in transporting such Unauthorized Gas via connecting pipelines to one or more of KUB’s delivery points.

In determining the appropriate rate block to bill Transportation Charges for gas Redelivered and Unauthorized Gas, the following volumes shall be combined: Interruptible Gas, Supplemental Gas, Transport Gas, and Unauthorized Gas.

## Purchased Gas Adjustment

The Commodity Charge for Firm Gas and Interruptible Gas shall be subject to KUB's Purchased Gas Adjustment.

## Determination of Demand

Demand shall be the daily quantity of gas contracted for as Firm Gas by the Customer. Customer, with the consent of KUB, may from time to time change the amount of Firm Gas by providing written notice to KUB at least three (3) business days prior to the beginning of the monthly billing period for which Customer desires the change to be effective; provided, however, that such changes shall not effect a reduction in the previously specified Firm Gas, unless the previously specified Firm Gas has been in effect for the entire twelve month period immediately preceding the date the requested change is to become effective.

## Unauthorized Gas Charge

No Customer shall take Unauthorized Gas. Customer must immediately notify KUB if it has taken, or anticipates taking, Unauthorized Gas. In the event Customer takes Unauthorized Gas, Customer shall be charged the Unauthorized Gas Charge for all Unauthorized Gas delivered by KUB to Customer. In addition, KUB may suspend or terminate service and/or pursue any other remedy available to it under applicable law. The existence of an Unauthorized Gas Charge shall not be construed to give Customer the right to take Unauthorized Gas. The penalty portion of the Unauthorized Gas Charge may be waived or reduced by KUB on a non-discriminatory basis.

## Priority of Service

Interruptible gas service is supplied to customers of KUB under Rate Schedules G-7 and G-11. Except as may be otherwise determined by KUB in its sole discretion, Periods of Interruption shall generally be imposed on interruptible customers of KUB in the following order:

(1) If the Period of Interruption is necessary due to an emergency or capacity limitation on KUB's gas distribution system, then the interruption of service to all interruptible customers of KUB shall be handled on a pro rata or other equitable basis as determined by KUB.

(2) If the capacity limitation affects only a restricted geographic area of KUB's gas distribution system, then only interruptible customers of KUB within the restricted area will have their service interrupted. The interruption of such customers shall be handled on a pro rata or other equitable basis as determined by KUB.

(3) If the Period of Interruption is necessary due to a shortage of KUB's normal gas supply, whether caused by a capacity limitation of KUB's connecting pipeline(s) or by an actual shortage of gas, then:

> (a) The first service interrupted shall be Rate Schedule G-7 Customers (other than Redeliveries of Supplemental Gas and Transport Gas) who have not heretofore been interrupted as provided above.
>
> (b) The second service interrupted shall be Redeliveries of Supplemental Gas to Rate Schedule G-7 Customers and deliveries of standby gas by KUB to Rate Schedule G-11 customers. Even though KUB may have acquired Supplemental Gas for the account of a Customer under Rate Schedule G-7 or standby gas for the

account of a customer under Rate Schedule G-11, these services may be interrupted to the extent necessary to provide service to KUB's Firm Gas customers.

Within each category, the interruption of such customers shall be handled on a pro rata or other equitable basis as determined by KUB.

Insofar as Transport Gas has been Delivered to KUB for any customer receiving service under Rate Schedule G-7 or Rate Schedule G-11, and insofar as the Period of Interruption is not due to an emergency or capacity limitation on KUB's gas distribution system, the delivery of Transport Gas by KUB to those customers will not be interrupted.

(4) If the Period of Interruption is necessary due to a lack of confirmation by any connecting pipeline of deliveries for any Rate Schedule G-11 customers or to any Customers receiving Transportation Service under Rate Schedule G-7, then only service to the affected Rate Schedule G-11 customers or to the affected Customers receiving Transportation Service under Rate Schedule G-7, as applicable, will be interrupted.

## Notices

To the extent possible, KUB shall give Customer at least a one-hour Notice of Interruption before a Period of Interruption begins. A Notice of Interruption may be written or oral and shall be sufficient if given by KUB via telephone or in person to the person or persons designated from time to time by the Customer as authorized to receive such notices, or by facsimile transmission to the telephone number designated from time to time by the Customer, or if mailed or hand-delivered in writing to the Customer's premises. If a Period of Interruption involves only a reduction in the amount of gas that may be purchased, the Notice of Interruption shall state the daily and/or hourly quantity of gas which Customer may purchase. A Period of Interruption shall continue in effect until KUB notifies Customer that the Period of Interruption has terminated or until the time specified in the Notice of Interruption expires.

## Minimum Bill

The minimum bill for each monthly billing period shall be the sum of the Customer Charge and the Demand Charge.

## Contract for Service

Each Customer receiving service under Rate Schedule G-7 shall execute a contract with KUB for at least twelve (12) months to end on the November 1st specified in said contract or such other period as Customer and KUB agree upon. Transportation Service under Rate Schedule G-7 shall be provided only after such customer executes a contract with KUB providing for Transportation Service.

## Rules and Regulations

Service is subject to Rules and Regulations of KUB.

# *RATE SCHEDULE G-11*
# *INTERRUPTIBLE TRANSPORTATION GAS SERVICE*

## Definitions

"Customer" means a person or entity contracting with or otherwise receiving service from KUB for interruptible transportation gas service under Rate Schedule G-11.

"Day" means a period of twenty-four (24) consecutive hours, beginning and ending at 10:00 A.M. prevailing Knoxville time or such other period as may be established by the applicable connecting pipeline(s) to KUB's system.

"Delivery" means the delivery of Transport Gas or Standby Gas to KUB.

"Firm Gas" means the amount of gas designated as such in a written contract between KUB and the Customer; Firm Gas is not subject to interruption or curtailment except for emergency or other causes as provided for in KUB's Rules and Regulations.

"Imbalance" means the difference between Deliveries to KUB for a Customer and Redeliveries by KUB to the Customer.

"Notice of Interruption" means the notice given by KUB to a Customer that a Period of Interruption has commenced or will commence.

"Operational Flow Order" means any directive issued to a Customer by KUB which requires the Customer to adjust Deliveries to KUB or deliveries of non-Firm gas to the Customer by KUB.

"Period of Interruption" means any period of time during which KUB shall interrupt or curtail the delivery of gas to the Customer.

"Redelivery" means the delivery of gas, excluding Firm Gas and Unauthorized Gas, to a Customer by KUB.

"Scheduled Daily Amount" means the amount of Transport Gas approved by KUB from time to time to be Delivered by a Customer to KUB and delivered to the Customer by KUB on a daily basis.

"Standby Gas" means gas procured by KUB for the account of a Customer in the event of failure of the Customer's supplier to Deliver Transport Gas to KUB.

"Transport Gas" means the gas purchased by a Customer from a supplier other than KUB that Customer has arranged to have Delivered to KUB for delivery to the Customer by KUB.

"Transportation Service Agreement" means the contract between KUB and the Customer whereby KUB agrees to provide interruptible transportation gas service to the Customer.

"Unauthorized Gas" means (a) the quantity of gas taken by Customer exceeding the amount which is permitted during a Period of Interruption or (b) the difference (whether positive or negative) between the quantity of gas taken by Customer and the volumes provided for under an Operational Flow Order.

## Availability

Service under Rate Schedule G-11 shall be available to any customer who meets the following conditions:

(a) Customer's annual gas usage (excluding Firm Gas), on an actual or projected basis, shall not be less than 25,000 dekatherms (one dekatherm is equivalent to ten therms);

(b) Customer shall be permitted to purchase only one (1) dekatherm of Firm Gas under Rate Schedule G-11 for each two (2) dekatherms of Transport Gas delivered by KUB to the Customer;

(c) Customer must have standby equipment of sufficient capacity capable of providing Customer's normal gas service requirements for a period of five (5) working days without replenishment when Transport Gas is completely interrupted. Customer shall maintain such equipment ready for operation at any time and shall utilize a fuel other than gas furnished by KUB and shall be subject to periodic inspections by KUB to ensure compliance with this provision;

> Condition (c) shall be optional for any Customer who meets the following requirements: (1) annual gas usage (excluding Firm Gas) is equal to or greater than 25,000 dekatherms; (2) primary use of gas is for industrial or process use; and (3) provides satisfactory evidence to KUB of its ability and willingness to have its gas service interrupted or curtailed by KUB in accordance with the terms and conditions of this Rate Schedule.

(d) Customer's use under this rate shall not work a hardship on any other customers of KUB, nor adversely affect any other class of KUB's customers and further provided the Customer's use under this rate shall not adversely affect KUB's gas purchase plans and/or effective utilization of the daily demands under KUB's gas purchase contracts with its suppliers, as solely determined by KUB.

(e) KUB must determine that its existing distribution system facilities are adequate and available for the requested service; and

(f) Customer must execute a Transportation Service Agreement for interruptible transportation gas service.

In the event Customer shall fail at any time to meet conditions (a) through (d) service under Rate Schedule G-11 shall no longer be available; but at KUB's option, gas service may be provided to the Customer under other KUB rate schedules.

Notwithstanding the foregoing, any Customer which received service under Rate Schedule G-11 prior to November 1, 1997 may receive service under Rate Schedule G-11 without fulfilling conditions (a) and (b). Any such Customer shall comply with all other terms and conditions of Rate Schedule G-11.

## Character of Service

Pursuant to a Transportation Service Agreement and Rate Schedule G-11, and subject to Periods of Interruption determined by KUB in its sole discretion, KUB shall deliver to the Customer up to the Contract Amount of Transport Gas received from one or more connected interstate natural gas pipelines for Customer's account.

If the Transport Gas cannot be Delivered to KUB by a supplier of the Customer for any reason, Standby Gas service may be available in accordance with the terms and conditions under Rate Schedule G-11.

The first gas delivered to the Customer on a daily basis under Rate Schedule G-11 shall be considered Firm Gas up to the daily quantity contracted for as Firm Gas by the Customer.

Gas purchased or transported under Rate Schedule G-11 shall be used only by the Customer at its facilities and shall be delivered at a single point of delivery located within the service area of KUB and shall not be resold by the Customer.

## Net Rates

Customer Charge: $450.00

Demand Charge: $19.00 per dekatherm of demand.

Firm Gas Charge - $5.566 per dekatherm.

Transportation Charge - $2.064 per dekatherm for the first 3,000 dekatherms of non-Firm gas delivered to Customer; plus $1.477 per dekatherm for each dekatherm from 3,000 to and including 20,000 dekatherms of non-Firm gas delivered to Customer; plus $.695 per dekatherm for each dekatherm from 20,000 to and including 50,000 dekatherms of non-Firm gas delivered to Customer; plus $.430 per dekatherm for the excess over 50,000 dekatherms of non-Firm gas delivered to Customer.

Standby Gas Charge - The charge for Standby Gas shall be the total of: (a) the cost per dekatherm to KUB for the applicable Day of acquiring Standby Gas on the open market, subject to the approval of the Customer to purchase Standby Gas at or above such price and (b) the costs incurred by KUB in transporting such Standby Gas via connecting pipelines to one or more of KUB's delivery points.

Unauthorized Gas Charge - $15.00 per dekatherm of Unauthorized Gas as a penalty, plus (a), the total cost per dekatherm of obtaining such gas on the open market, as defined below, plus (b), the costs incurred by KUB in transporting such Unauthorized Gas via connecting pipelines to one or more of KUB's delivery points. The cost per dekatherm of obtaining such gas on the open market, (a) above, is defined as an index price based on the High Common price for "Transco zone 5 delivered" or "Tennessee 500 Leg", whichever is higher for the applicable Day as published in Gas Daily. If Gas Daily is no longer published, or one of the aforementioned indices is not published, or for any other reason as determined by KUB, KUB will select an industry recognized index at its sole discretion.

Other Charges - Imbalance Charges (as herein defined), and any pipeline scheduling, balancing, transportation, or other similar charges incurred by KUB in connection with the transportation of gas on behalf of the Customer, as applicable.

## Purchased Gas Adjustment

The Firm Gas Charge shall be subject to KUB's Purchased Gas Adjustment.

Standby Gas Service

In the event Transport Gas cannot be Delivered to KUB by a supplier of the Customer, KUB will attempt to make Standby Gas available to the Customer in volumes up to the Customer's Scheduled Daily Amount. To obtain Standby Gas service, Customer or Customer's supplier must provide KUB with prior written or oral notice that the supplier will be unable to Deliver volumes to KUB to meet Customer's Scheduled Daily Amount.

KUB shall have the right, in its sole discretion, to curtail in whole or in part Standby Gas service to the Customer.

Standby Gas under Rate Schedule G-11 shall be subject to the following charges, as applicable: (a) the Standby Gas Charge, as set forth in this rate schedule, for Deliveries of Standby Gas to KUB for the account of the Customer, and (b) the Transportation Charge, as set forth in this rate schedule, for deliveries of Standby Gas to the Customer by KUB.

## Determination of Demand

Demand shall be the daily quantity of gas contracted for as Firm Gas by the Customer. Customer, with the consent of KUB, may from time to time change the amount of Firm Gas by providing written notice to KUB at least three (3) business days prior to the beginning of the monthly billing period for which the Customer desires the change to be effective; provided, however, that such changes shall not effect a reduction in the previously specified Firm Gas, unless the previously specified Firm Gas has been in effect for the entire twelve month period immediately preceding the date the requested change is to become effective.

## Scheduling of Service

At least three (3) business days prior to the first calendar day of the month, Customer shall submit to KUB its schedule showing the proposed daily volumes of Transport Gas the Customer desires to deliver to KUB via connecting pipelines and have delivered to the Customer by KUB during the succeeding month ("Delivery Schedule"). Any proposed Delivery of gas in excess of the Transport Gas portion of the Contract Amount shall be specifically noted in the Delivery Schedule. At least one business day prior to the beginning of the applicable calendar month, KUB shall notify the Customer in writing of the volumes of Transport Gas for such Customer which have been approved for Delivery to KUB and delivery to the Customer by KUB on a daily basis during such month ("Scheduled Daily Amount"). The Customer must notify and obtain written approval of KUB for any changes in the Scheduled Daily Amount during a month at least twenty-four (24) hours prior to the proposed commencement of such change.

KUB shall have the right, in its sole discretion, to issue an Operational Flow Order ("OFO") which shall require the Customer to adjust Deliveries to KUB or deliveries of non-Firm gas to the Customer by KUB in order to address one or more of the following situations: (1) to maintain system operations at pressures required to provide efficient and reliable service, (2) to have adequate gas supplies in the system to deliver on demand, (3) to maintain service to all firm gas customers and for all firm gas services, (4) to avoid penalties from connecting pipelines, or (5) any other situation which may threaten the operational integrity of KUB's gas distribution system.

To the extent possible, KUB shall give at least one-hour notice prior to issuing an OFO. Notice may be written or oral and shall be sufficient if given by KUB via telephone or in person to the person or person(s) designated from time to time by the Customer as authorized to receive such notices, or by facsimile to the facsimile number designated from time to time by the Customer, or if mailed or hand-delivered in writing to the Customer's premises. The OFO shall include but not be limited to the following information: (1) time and date of issuance, (2) action Customer is required to take, (3) time at which Customer must be in compliance with the OFO, (4) anticipated duration of the OFO, and (5) any other terms and conditions that KUB may reasonably require to ensure the effectiveness of the OFO.

Any volumes of gas delivered to the Customer by KUB in excess of the volumes provided for under the OFO shall be subject to the entire Unauthorized Gas Charge. If the volumes of gas delivered to the Customer by KUB are less than the volumes required to be delivered to the Customer under the OFO, the volumes not delivered to the Customer shall be subject only to the penalty portion of the Unauthorized Gas Charge.

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## Unauthorized Gas Charge

No Customer shall take Unauthorized Gas. A Customer must immediately notify KUB if it has taken, or anticipates taking, Unauthorized Gas. In the event a Customer takes Unauthorized Gas, the Customer shall be charged for all Unauthorized Gas delivered by KUB to the Customer the Unauthorized Gas Charge. In addition, KUB may suspend or terminate service and/or pursue any other remedy available to it under applicable law. The existence of an Unauthorized Gas Charge shall not be construed to give any Customer the right to take Unauthorized Gas. The penalty portion of the Unauthorized Gas Charge may be waived or reduced by KUB on a non-discriminatory basis.

## Balancing of Deliveries

As nearly as practical, Deliveries and Redeliveries shall be at uniform rates of flow. Due to Customer operating conditions, the quantities of gas Delivered to KUB and Redelivered to Customer during any particular period may not balance. It shall be the responsibility of the Customer to adjust Deliveries and Redeliveries of gas to maintain a daily balance of Deliveries and Redeliveries.

KUB will endeavor to monitor Deliveries and Redeliveries and, to the extent practical, inform the Customer of Imbalances which have occurred. KUB's failure to notify the Customer of an Imbalance shall not affect Customer's obligations under Rate Schedule G-11. All efforts to correct Imbalances by a Customer shall be coordinated with KUB.

KUB shall have the right to take any and all action necessary to limit Imbalances from connecting pipelines or which affect the integrity of KUB's system.

## Resolution of Imbalances

The Customer's Imbalance for the month shall be the net total of daily Imbalances for the month. KUB shall divide the monthly Imbalance by the sum of the Deliveries to KUB for the Customer for each Day of the month to determine the percentage (%) monthly Imbalance. KUB shall resolve the monthly Imbalance according to the following schedules ("Imbalance Charges"):

Schedule A. Redeliveries exceed Deliveries - Customer shall pay KUB for excess volumes at the applicable percentage of the Index Price (as defined in this Schedule A) for those volumes within the corresponding % monthly imbalance range.

| % Monthly Imbalance | Price |
|---|---|
| 0 - 5% | 100% of Index Price |
| > 5 - 10% | 115% of Index Price |
| >10 - 15% | 130% of Index Price |
| >15 - 20% | 140% of Index Price |
| >20% | 150% of Index Price |

The Index Price shall be the total of: (a) the average of daily prices for the applicable Gulf Coast Price Index for the applicable month, as published in Gas Daily, or if Gas Daily is no longer published, in a comparable reliable source for natural gas prices and (b) the costs incurred by KUB in transporting such excess volumes via connecting pipelines to one or more of KUB's delivery points.

Schedule B. Deliveries exceed Redeliveries - KUB shall pay the Customer for excess volumes at the applicable percentage of the Index Price (as defined in this Schedule B) for those volumes within the corresponding % monthly imbalance range.

| % Monthly Imbalance | Price |
|---|---|
| 0 - 5% | 100% of Index Price |
| > 5 - 10% | 85% of Index Price |
| >10 - 15% | 70% of Index Price |
| >15 - 20% | 60% of Index Price |
| >20% | 50% of Index Price |

The Index Price shall be the total of: (a) the average of daily prices for the applicable Gulf Coast Price Index for the applicable month, as published in Gas Daily or, if Gas Daily is no longer published, in a comparable reliable source for natural gas prices and (b) the costs which would have been incurred by KUB in transporting such excess volumes via connecting pipelines to one or more of KUB's delivery points.

## Priority of Service

Interruptible gas service is supplied to customers of KUB under Rate Schedules G-7 and G-11. Except as may be otherwise determined by KUB in its sole discretion, Periods of Interruption shall generally be imposed on interruptible customers of KUB in the following order:

(1) If the Period of Interruption is necessary due to an emergency or a capacity limitation on KUB's gas distribution system, then the interruption of service to all interruptible customers of KUB shall be handled on a pro rata or other equitable basis as determined by KUB.

(2) If the capacity limitation affects only a restricted geographic area of KUB's gas distribution system, then only interruptible customers of KUB within the restricted area will have their service interrupted. The interruption of such customers shall be handled on a pro rata or other equitable basis as determined by KUB.

(3) If the Period of Interruption is necessary due to a shortage of KUB's normal gas supply, whether caused by a capacity limitation of KUB's connecting pipeline(s) or by an actual shortage of gas, then:

> (a) The first service interrupted shall be Rate Schedule G-7 customers (other than redeliveries of supplemental gas and transport gas) who have not heretofore been interrupted as provided above.
>
> (b) The second service interrupted shall be redeliveries of supplemental gas to Rate Schedule G-7 customers and Deliveries of Standby Gas by KUB to Rate Schedule G-11 Customers. Even though KUB may have acquired supplemental gas for the account of a customer under Rate Schedule G-7 or Standby Gas for the account of a Customer under Rate Schedule G-11, these services may be interrupted to the extent necessary to provide service to KUB's Firm

Gas customers.

Within each category, the interruption of such customers shall be handled on a pro rata or other equitable basis as determined by KUB.

Insofar as Transport Gas has been Delivered to KUB for any customer receiving service under Rate Schedule G-7 or Rate Schedule G-11, and insofar as the Period of Interruption is not due to an emergency or capacity limitation on KUB's gas distribution system, the delivery of Transport Gas by KUB to those customers will not be interrupted.

(4) If the Period of Interruption is necessary due to a lack of confirmation by any connecting pipeline of Deliveries for any Rate Schedule G-11 Customers or to any customers receiving transportation service under Rate Schedule G-7, then only service to the affected Rate Schedule G-11 Customers or to the affected customers receiving transportation service under Rate Schedule G-7, as applicable, will be interrupted.

## Notices

To the extent possible, KUB shall give Customer at least a one-hour Notice of Interruption before a Period of Interruption begins. A Notice of Interruption may be written or oral and shall be sufficient if given by KUB via telephone or in person to the person or persons designated from time to time by the Customer as authorized to receive such notices, or by facsimile transmission to the telephone number designated from time to time by the Customer, or if mailed or hand-delivered in writing to the Customer's premises. If a Period of Interruption involves only a reduction in the amount of gas that may be transported, the Notice of Interruption shall state the daily and/or hourly quantity of gas which Customer may transport. A Period of Interruption shall continue in effect until KUB notifies Customer that the Period of Interruption has terminated or until the time specified in the Notice of Interruption expires.

## Minimum Bill

The minimum bill for each monthly billing period shall be the sum of the Customer Charge and the Demand Charge.

## Contract for Service

Each Customer receiving service under Rate Schedule G-11 shall execute a contract with KUB for at least twelve (12) months to end on the November 1st specified in said contract or such other period as Customer and KUB agree upon.

## Rules and Regulations

Service is subject to Rules and Regulations of KUB.

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# *RATE SCHEDULE G-12*
# *COMMERCIAL AND INDUSTRIAL FIRM TRANSPORTATION GAS SERVICE*

## Definitions

"Contract Amount" means the maximum amount of Transport Gas a Customer may transport through KUB's gas distribution system facilities on any Day as established by a Transportation Service Agreement between KUB and the Customer.

"Customer" means a person or entity contracting with or otherwise receiving service from KUB for firm transportation gas service under Rate Schedule G-12.

"Day" means a period of twenty-four (24) consecutive hours, beginning and ending at 10:00 A.M. prevailing Knoxville time or such other period as may be established by the applicable connecting pipeline(s) to KUB's system.

"Delivery" means the delivery of Transport Gas or Standby Gas to KUB.

"Imbalance" means the difference between Deliveries to KUB for a Customer and Redeliveries by KUB to the Customer.

"Operational Flow Order" means any directive issued to a Customer by KUB which requires the Customer to adjust Deliveries to KUB or deliveries of gas to the Customer by KUB.

"Redelivery" means the delivery of gas, excluding Unauthorized Gas, to a Customer by KUB.

"Scheduled Daily Amount" means the amount of Transport Gas approved by KUB from time to time to be Delivered by a Customer to KUB and delivered to the Customer by KUB on a daily basis.

"Standby Gas" means gas procured by KUB for the account of a Customer in the event of failure of the Customer's supplier to Deliver Transport Gas to KUB.

"Transport Gas" means the gas purchased by a Customer from a supplier other than KUB that Customer has arranged to have Delivered to KUB for delivery to the Customer by KUB.

"Transportation Service Agreement" means the contract between KUB and Customer whereby KUB agrees to provide firm transportation gas service to the Customer.

"Unauthorized Gas" means (a) the quantity of gas taken by Customer exceeding the Contract Amount or (b) the difference (whether positive or negative) between the quantity of gas taken by Customer and the volumes provided for under an Operational Flow Order.

## Availability

Service under Rate Schedule G-12 shall be available to any customer when the following conditions are met:

(a) Customer's annual gas usage, on an actual or projected basis, shall not be less than 12,500 dekatherms (one dekatherm is equivalent to ten therms);

(b) KUB must determine that its existing distribution system facilities are adequate and available for the requested service; and

(c) Customer must execute a Transportation Service Agreement for firm transportation gas service.

(d) Customer's use under this rate shall not work a hardship on any other customers of KUB, nor adversely affect any other class of KUB's customers and further provided the Customer's use under this rate shall not adversely affect KUB's gas purchase plans and/or effective utilization of the daily demands under KUB's gas purchase contracts with its suppliers, as solely determined by KUB.

In the event a Customer shall fail at any time to continue to meet condition (a) or (d), service under Rate Schedule G-12 shall no longer be available; but at KUB's option, gas service may be provided to the Customer under other KUB rate schedules.

## Character of Service

Pursuant to a Transportation Service Agreement and Rate Schedule G-12, KUB shall deliver to the Customer up to the Contract Amount of Transport Gas received from one or more connected interstate natural gas pipelines for Customer's account.

Transport Gas, as provided for under Rate Schedule G-12, shall be subject to interruption as a result of emergency or other causes as provided for in KUB's Rules and Regulations.

If the Transport Gas cannot be Delivered to KUB by a supplier of the Customer for any reason, Standby Gas service may be available in accordance with the terms and conditions under Rate Schedule G-12.

Gas purchased or transported under Rate Schedule G-12 shall be used only by the Customer at its facilities and shall be delivered at a single point of delivery located within the service area of KUB and shall not be resold by the Customer.

## Net Rates

Customer Charge: $450.00
Demand Charge: $6.30 per dekatherm of demand.
Transportation Charge - $2.333 per dekatherm for the first 3,000 dekatherms of gas delivered to Customer; plus

$1.599 per dekatherm for each dekatherm from 3,000 to and including 20,000 dekatherms of gas delivered to Customer; plus $.739 per dekatherm for each dekatherm from 20,000 to and including 50,000 dekatherms of gas delivered to Customer; plus $.575 per dekatherm for the excess over 50,000 dekatherms of gas delivered to Customer.

Standby Gas Charge - The charge for Standby Gas shall be the total of: (a) the cost per dekatherm to KUB for the applicable Day of acquiring Standby Gas in the open market, subject to the approval of the Customer to purchase Standby Gas at or above such price and (b) the costs incurred by KUB in transporting such Standby Gas via connecting pipelines to one or more of KUB's delivery points.

Unauthorized Gas Charge - $15.00 per dekatherm of Unauthorized Gas as a penalty, plus (a), the total cost per dekatherm of obtaining such gas on the open market, as defined below, plus (b), the costs incurred by KUB in transporting such Unauthorized Gas via connecting pipelines to one or more of KUB's delivery points. The cost per dekatherm of obtaining such gas on the open market, (a) above, is defined as an index price based on the High Common price for "Transco zone 5 delivered" or "Tennessee 500 Leg", whichever is higher for the applicable Day as published in Gas Daily. If Gas Daily is no longer published, or one of the aforementioned indices is not published, or for any other reason as determined by KUB, KUB will select an industry recognized index at its sole discretion.

Other Charges - Imbalance Charges (as herein defined), and any pipeline scheduling, balancing, transportation, or other similar charges incurred by KUB in connection with the transportation of gas on behalf of the Customer, as applicable.

## Standby Gas Service

In the event Transport Gas cannot be Delivered to KUB by a supplier of the Customer, KUB will attempt to make Standby Gas available to the Customer in volumes up to the Customer's Scheduled Daily Amount. To obtain Standby Gas service, Customer or Customer's supplier must provide KUB with prior written or oral notice that the supplier will be unable to Deliver volumes to KUB to meet Customer's Scheduled Daily Amount.

KUB shall have the right, in its sole discretion, to curtail in whole or in part Standby Gas service to the Customer. To the extent possible, KUB shall give the Customer at least one-hour notice prior to curtailment of Standby Gas service. Notice of curtailment may be written or oral and shall be sufficient if given by KUB via telephone or in person to the person or persons designated from time to time by the Customer to receive such notices, or by facsimile transmission to the telephone number designated from time to time by the Customer, or if mailed or hand-delivered in writing to the Customer's premises.

Standby Gas under Rate Schedule G-12 shall be subject to the following charges, as applicable: (a) the Standby Gas Charge, as set forth in this rate schedule, for Deliveries of Standby Gas to KUB for the account of the Customer, and (b) the Transportation Charge, as set forth in this rate schedule, for deliveries of Standby Gas to the Customer by KUB.

## Determination of Demand

Demand for any month shall be the Customer's Contract Amount. Customer, with the consent of KUB, may from time to time change the Contract Amount by providing written notice to KUB at least three (3) business days prior to the beginning of the monthly billing period for which the Customer desires the change to be effective; provided, however, that such changes shall not effect a reduction in the previously specified Contract Amount unless the previously specified Contract Amount has been in effect for the entire twelve month period immediately preceding the date the requested change is to become effective. Any change in the Contract Amount shall be effectuated by an amendment to the Transportation Service Agreement.

## Scheduling of Service

At least three (3) business days prior to the first calendar day of the month, Customer shall submit to KUB its schedule showing the proposed daily volumes of Transport Gas the Customer desires to Deliver to KUB via connecting pipelines and have delivered to the Customer by KUB during the succeeding month ("Delivery Schedule"). Any proposed Delivery of gas in excess of the Contract Amount shall be specifically noted in the Delivery Schedule. At least one business day prior to the beginning of the applicable calendar month, KUB shall notify the Customer in writing of the volumes of Transport Gas for such Customer which have been approved for Delivery to KUB and delivery to the Customer by KUB on a daily basis during such month ("Scheduled Daily Amount"). The Customer must notify and obtain written approval of KUB for any changes in the Scheduled Daily Amount during a month at least twenty-four (24) hours prior to the proposed commencement of such change.

KUB shall have the right, in its sole discretion, to issue an Operational Flow Order ("OFO") which shall require the Customer to adjust Deliveries to KUB or deliveries of gas to the Customer by KUB in order to address one or more of the following situations: (1) to maintain system operations at pressures required to provide efficient and reliable service, (2) to have adequate gas supplies in the system to deliver on demand, (3) to maintain service to all firm gas customers and for all firm gas services, (4) to avoid penalties from connecting pipelines, or (5) any other situation which may threaten the operational integrity of KUB's gas distribution system.

To the extent possible, KUB shall give at least one-hour notice prior to issuing an OFO. Notice may be written or oral and shall be sufficient if given by KUB via telephone or in person to the person or person(s) designated from time to time by the Customer as authorized to receive such notices, or by facsimile to the facsimile number designated from time to time by the Customer, or if mailed or hand-delivered in writing to the Customer's premises. The OFO shall include but not be limited to the following information: (1) time and date of issuance, (2) action Customer is required to take, (3) time at which Customer must be in compliance with the OFO, (4) anticipated duration of the OFO, and (5) any other terms and conditions that KUB may reasonably require to ensure the effectiveness of the OFO.

Any volumes of gas delivered to the Customer by KUB in excess of the volumes provided for under the OFO shall be subject to the entire Unauthorized Gas Charge. If the volumes of gas delivered to the Customer by KUB are less than the volumes required to be delivered to the Customer under the OFO, the volumes not delivered to the Customer shall be subject only to the penalty portion of the Unauthorized Gas Charge.

### Unauthorized Gas Charge

No Customer shall take Unauthorized Gas. A Customer must immediately notify KUB if it has taken, or anticipates taking, Unauthorized Gas. In the event a Customer takes Unauthorized Gas, the Customer shall be charged for all Unauthorized Gas delivered by KUB to the Customer the Unauthorized Gas Charge. In addition, KUB may suspend or terminate service and/or pursue any other remedy available to it under applicable law. The existence of an Unauthorized Gas Charge shall not be construed to give any Customer the right to take Unauthorized Gas. The penalty portion of the Unauthorized Gas Charge may be waived or reduced by KUB on a non-discriminatory basis.

### Balancing of Deliveries

As nearly as practical, Deliveries and Redeliveries shall be at uniform rates of flow. Due to Customer operating conditions, the quantities of gas Delivered to KUB and Redelivered to Customer during any particular period may not balance. It shall be the responsibility of the Customer to adjust Deliveries and Redeliveries of gas to maintain a daily balance of Deliveries and Redeliveries.

KUB will endeavor to monitor Deliveries and Redeliveries and, to the extent practical, inform the Customer of Imbalances which have occurred. KUB's failure to notify the Customer of an Imbalance shall not affect Customer's obligations under Rate Schedule G-12. All efforts to correct Imbalances by a Customer shall be coordinated with KUB.

KUB shall have the right to take any and all action necessary to limit Imbalances from connecting pipelines or which affect the integrity of KUB's system.

### Resolution of Imbalances

The Customer's Imbalance for the month shall be the net total of daily Imbalances for the month. KUB shall divide the monthly Imbalance by the sum of the Deliveries to KUB for the Customer for each Day of the month to determine the percentage (%) monthly Imbalance. KUB shall resolve the monthly Imbalance according to the following schedules ("Imbalance Charges"):

Schedule A. Redeliveries exceed Deliveries - Customer shall pay KUB for excess volumes at the applicable percentage of the Index Price (as defined in this Schedule A) for those volumes within the corresponding % monthly imbalance range.

| % Monthly Imbalance | Price |
|---|---|
| 0 - 5% | 100% of Index Price |
| > 5 - 10% | 115% of Index Price |
| >10 - 15% | 130% of Index Price |
| >15 - 20% | 140% of Index Price |
| >20% | 150% of Index Price |

The Index Price shall be the total of: (a) the average of daily prices for the applicable Gulf Coast Price Index for the applicable month, as published in Gas Daily, or if Gas Daily is no longer published, in a comparable reliable source for natural gas prices and (b) the costs incurred by KUB in transporting such excess volumes via connecting pipelines to one or more of KUB's delivery points.

Schedule B. Deliveries exceed Redeliveries - KUB shall pay the Customer for excess volumes at the applicable percentage of the Index Price (as defined in this Schedule B) for those volumes within the corresponding % monthly imbalance range.

| % Monthly Imbalance | Price |
|---|---|
| 0 - 5% | 100% of Index Price |
| > 5 - 10% | 85% of Index Price |
| >10 - 15% | 70% of Index Price |
| >15 - 20% | 60% of Index Price |
| >20% | 50% of Index Price |

The Index Price shall be the total of: (a) the average of daily prices for the applicable Gulf Coast Price Index for the applicable month, as published in Gas Daily or, if Gas Daily is no longer published, in a comparable reliable source for natural gas prices and (b) the costs which would have been incurred by KUB in transporting such excess volumes via connecting pipelines to one or more of KUB's delivery points.

## Minimum Bill

The minimum bill for each monthly billing period shall be the sum of the Customer Charge and the Demand Charge.

## Contract for Service

Each Customer receiving service under Rate Schedule G-12 shall execute a contract with KUB to end on the November 1st specified in said contract.

## Rules and Regulations

Service is subject to Rules and Regulations of KUB.

# *RATE SCHEDULE G-13*
# *DISCOUNT GAS SERVICE RIDER*

## Definitions

"Agreement" means a Discount Gas Service Agreement for gas service under Rate Schedule G-13 between the Customer and KUB. The Agreement shall serve as an amendment to the Contract.

"Alternate Fuel" means any source of fuel used by a customer at its facilities as an alternative to natural gas.

"Bypass" means the delivery of natural gas directly to the facilities of a customer within the gas service territory of KUB by (1) a connecting interstate or intrastate natural gas pipeline or (2) a connecting alternate natural gas distribution system, without the transportation of such gas on KUB's natural gas distribution system.

"Contract" means an agreement for gas service from KUB under a commercial and industrial rate schedule between a customer and KUB.

"Customer" means a person or entity contracting with or otherwise receiving service from KUB under the Discount Gas Service Rider ("Rider").

"Purchased Gas Cost Component" means the portion of a rate charged by KUB to its customers for gas service which reflects the cost of purchasing gas and transporting it to the facilities of KUB for resale to its customers.

## Availability

The Discount Gas Service Rider (the "Rider") is designed to permit KUB to discount rates set forth in the Gas Division's rate schedules for commercial and industrial gas service for any customer receiving gas service from KUB under a commercial and industrial rate schedule provided such customer meets the terms and conditions set forth herein.

Service under the Rider shall be available only (1) to meet competitive Alternate Fuel prices or (2) to avoid Bypass of KUB's natural gas distribution system, under the circumstances described below:

## Alternate Fuel Prices

Customer's use of Alternate Fuel sources must, in the sole judgment of KUB, be deemed economically feasible and practical. Customer shall be required to provide KUB with an affidavit stating the Customer's intent to use Alternate Fuel sources absent service from KUB under the Rider. Customer shall also be required to provide KUB with documentation demonstrating to KUB that its Alternate Fuel source is available to Customer and the cost of the Alternate Fuel source is less than the otherwise applicable commercial and industrial gas rates charged to the Customer by KUB.

## Bypass of Distribution System

Customer's facilities must be located within such distance of (1) an interstate or intrastate natural gas pipeline providing gas transportation or sales service or (2) an alternate natural gas distribution system, so that Bypass of KUB's natural gas distribution system is, in the sole judgment of KUB, deemed economically feasible and practical.

Customer shall provide KUB with an affidavit stating the Customer's intent to Bypass KUB's natural gas distribution system absent service from KUB under the Rider. Customer shall also provide KUB with any other such documentation requested by KUB to verify the investment required on part of the Customer to take gas service directly from the applicable interstate or intrastate natural gas pipeline or alternate natural gas distribution system.

## Additional Conditions

In addition, any Customer receiving service under the Rider must meet the following conditions:

(a) Customer's annual gas consumption, on an actual or projected basis, shall not be less than 25,000 dekatherms (one dekatherm is equivalent to ten therms);

(b) Customer must have executed a Contract to receive gas service from KUB under a commercial and industrial rate schedule; and

(c) Customer must execute a Discount Gas Service Agreement.

If, for any reason, Customer shall fail to satisfy the conditions necessary for service under the Rider, service under the Rider shall no longer be available; however, Customer may continue to receive gas service from KUB under the applicable commercial and industrial rate schedule provided the Customer continues to satisfy the conditions required for service under such rate schedule.

## Character of Service

Customer must make a written request to KUB for service under the Rider. The request must describe the circumstances under which the customer is seeking to receive service under the Rider (Alternate Fuel prices or Bypass). Customer's request for service under the Rider and the amount of any discount provided Customer under the Rider must be previously approved by the President of KUB (or such designated agent authorized by the President of KUB to act on the President's behalf) prior to the Customer receiving service under the Rider. Customer must have previously executed a Contract prior to receiving service under the Rider.

Unless expressly stated otherwise in the Agreement for service under the Rider, all the terms and conditions of the Customer's applicable commercial and industrial rate schedule shall remain in effect while the Customer is receiving service under the Rider.

KUB shall conduct an economic analysis of the circumstances under which the customer is seeking to receive service under the Rider (Alternate Fuel prices or Bypass). Customer shall, at the request of KUB, provide any and all information necessary for KUB to conduct such an analysis. The analysis shall determine, among other things, the cost to the customer of using an Alternate Fuel or the cost to the customer to Bypass KUB's natural gas distribution system, as applicable. If Customer is approved for service under the Rider, KUB shall discount the rates set forth in the Customer's applicable commercial and industrial rate schedule in such a manner that the Customer's cost of receiving gas service from KUB is competitive with the Customer's cost of using an Alternate Fuel or Bypassing KUB's natural gas distribution system, as applicable.

The following charges specified in KUB's commercial and industrial gas rate schedules shall be subject to being discounted under the Rider: Customer Charges, Demand Charges, Commodity Charges for Firm Gas and/or Interruptible Gas, and Transportation Charges. Commodity Charges for Firm Gas and/or Interruptible Gas shall not be discounted below the applicable Purchased Gas Cost Component plus $.10 (ten cents) per dekatherm. Transportation Charges shall not be discounted below $.10 (ten cents) per dekatherm.

Discounted rates are subject to adjustment by KUB on a periodic basis, as determined by KUB in its sole discretion; provided, however, that the circumstances under which the Customer warranted service under the Rider shall be evaluated by KUB on no less than a biannual basis for such period of time Customer is receiving service under the Rider. Customer shall, at the request of KUB, provide any and all information necessary for KUB to evaluate the circumstances by which Customer was granted service under the Rider. Based upon an analysis of information received from the Customer or obtained by KUB of its own accord, KUB shall have the right to adjust the discount provided to the Customer up to the point of ceasing to provide service to the Customer under the Rider.

## Discount Gas Service Agreement

Customer shall enter into an Agreement with KUB for service under the Rider. The Agreement shall serve as an amendment to the Customer's previously executed Contract for commercial and industrial gas service with KUB. Subject to KUB's right to re-evaluate and adjust the discount provided for under the Agreement, the Agreement shall specify the discount to be provided by KUB to the Customer and any other such terms and conditions as KUB determines are necessary to effectuate service under the Rider.

KUB may amend the Agreement, at its sole discretion, to provide for an adjustment in the discount provided to the Customer. KUB shall provide such notice to the Customer, as deemed appropriate by KUB, of any adjustment in the discount provided to the Customer under the Agreement. Any such adjustment in the discount provided the Customer shall be in accordance with KUB's periodic evaluation of the circumstances warranting service under the Rider.

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# *RATE SCHEDULE G-14*
# *ALTERNATIVE GAS PRICING RIDER*

## Definitions

“Alternative Gas Pricing Agreement” means the agreement between KUB and the Customer providing the Customer gas service under the Alternative Gas Pricing Rider (“Pricing Rider”) and shall be considered an amendment to the Contract to provide gas between KUB and the Customer.

“Alternative Gas Pricing Guidelines” means the policies and procedures established by KUB for the implementation and administration of the Pricing Rider.

“Customer” means a person or entity receiving service from KUB under the Pricing Rider.

“Firm Gas Adder” means the component of the Customer’s commodity gas rate for the costs incurred by KUB for reserving interstate natural gas pipeline and storage capacity by KUB on behalf of the Customer.

“KUB System Supply Price” means the weighted average cost of gas delivered to KUB’s gas distribution system for a given month for resale to customers on the KUB gas distribution system (excluding gas sold to customers under the Pricing Rider).

“KUB System Transportation Charge” means the cost of transporting gas on KUB’s gas distribution system on behalf of the Customer to the facilities of the Customer as determined by the KUB Board of Commissioners in their sole discretion.

“Locked-Price Gas” means gas whose rate is pre-determined.

“Market-Price Gas” means gas whose rate is based upon a first-of-the-month natural gas price for Tennessee, La., 500 Leg as published in Platts Gas Daily Price Guide. In the event the price is not published for the month then a comparable monthly index shall be substituted as determined by KUB. If the above publication ceases to be published during the term hereof, its successor publication shall be used or, if there is no successor, then a comparable monthly published index shall be substituted in replacement thereof.

“Price Cashout” means the monthly reconciliation process between the Customer and KUB in which the Customer’s gas volume obligations for Locked-Price Gas are reconciled with KUB.

## Availability

The Pricing Rider is designed to provide large commercial and industrial customers receiving gas service from KUB with the opportunity and means to manage the cost of their natural gas purchases from KUB by providing pricing alternatives for the applicable commodity gas rates set forth in their applicable commercial and industrial rate schedules.

Service under the Pricing Rider shall be available to G-7 or G-11 commercial and industrial customers receiving gas service from KUB under the terms and conditions set forth below

(a) Customer's annual gas usage, on an actual or projected basis, shall not be less than 25,000 dekatherms.

(b) For a Customer receiving service under Rate Schedule G-11, Interruptible Transportation Gas Service, pricing alternatives shall be applicable only to Firm Gas.

(c) Customer may be required to provide KUB with appropriate financial information prior to receiving service under the Pricing Rider and subsequently on a periodic basis, for the purpose of evaluating the Customer's creditworthiness. KUB reserves the right, in its sole discretion, to deny any Customer service under the Pricing Rider based upon KUB's evaluation of the Customer's creditworthiness or authorize any appropriate security arrangement, if necessary, for the Customer to receive service under the Pricing Rider. KUB also reserves the right, in its sole discretion, to refuse to execute any particular alternative price transaction on behalf of a Customer based upon KUB's initial or any subsequent evaluation of the Customer's creditworthiness.

(d) Customer must execute an Alternative Gas Pricing Agreement which shall serve as an amendment to the Customer's existing contract to receive gas service from KUB. Customer must have previously executed a contract to receive gas service from KUB prior to receiving service under the Pricing Rider.

(e) Customer must comply with any other terms and conditions required for service under the Pricing Rider which may be set forth in the Alternative Gas Pricing Guidelines.

In the event a Customer fails to satisfy the conditions necessary for service under the Pricing Rider, service under the Pricing Rider, as determined by KUB in its sole discretion, may no longer be available; however, the Customer may continue to receive gas service from KUB under the applicable commercial and industrial rate schedule provided the Customer continues to satisfy the conditions required for service under such rate schedule and the Customer's Contract, as amended with KUB.

Upon determination that service under the Pricing Rider is no longer available to a Customer, the Customer shall still be permitted to receive service under the Pricing Rider until such point in time that the Customer's outstanding Locked-Price Gas commitments have been fulfilled.

Unless expressly provided for otherwise in the Pricing Rider or in the Alternative Gas Pricing Guidelines, all the terms and conditions of the Customer's applicable commercial and industrial rate schedule shall remain in effect while the Customer is receiving service under the Pricing Rider.

## Character of Service

Alternative pricing shall be applicable only for the Customer's Commodity Gas Rates for Firm Gas and Interruptible Gas ("Commodity Gas Rates"). Interruptible Gas shall still be subject to periods of interruption under the terms and conditions set forth in the Customer's applicable commercial and industrial rate schedule.

For a Customer receiving service under the Pricing Rider, the Commodity Gas Rates set forth in the Customer's applicable commercial and industrial rate schedule shall not be effective. Commodity Gas Rates for a Customer receiving service under the Pricing Rider shall be based upon the pricing alternative selected by the Customer as described below and agreed upon by KUB.

> (a) Locked-Price Gas: Commodity Gas Rates shall be locked or pre-determined at the time KUB executes the pricing transaction on behalf of the Customer. The Commodity Gas Rate shall consist of the cost incurred by KUB for purchasing the gas on the open market for the benefit of the Customer plus the cost of transporting the gas on connecting interstate natural gas pipelines to KUB's gas distribution system plus the KUB System Transportation Charge; or
>
> (b) Market-Price Gas: Commodity Gas Rates shall consist of the applicable market index, supplier premium, and the cost of transporting the gas on connecting interstate natural gas pipelines to KUB's gas distribution system plus the KUB System Transportation Charge.

Regardless of the pricing alternative utilized by the Customer, the Customer's commodity gas rate for Firm Gas shall also include a Firm Gas Adder for the costs incurred by KUB for interstate natural gas pipeline and storage capacity reservation charges.

The Market-Price alternative shall be the default pricing mechanism for Commodity Gas Charges. If KUB does not execute any Locked-Price transactions on behalf of a Customer for a given month, the Customer's Commodity Gas Charges for that particular month shall be based upon the Market-Price alternative. The Commodity Gas Charges for any gas delivered by KUB to the facilities of the Customer for a given month in excess of Locked-Price Gas shall be Market-Price Gas (excluding Transport Gas, Supplemental Gas, and Unauthorized Gas).

KUB incurs an obligation for Locked-Price Gas volumes when it executes transactions on behalf of a Customer. If, for whatever reason, the gas volumes delivered by KUB to the Customer for any month are less than the gas volumes the Customer has locked for such month, the net difference (excluding Transport Gas, Supplemental Gas, and Unauthorized Gas) shall be reconciled on a monthly basis through a Price Cashout.

If the price of the Locked-Price Gas delivered to KUB exceeds the KUB System Supply Price, the Customer shall pay a Price Cashout Charge equal to the excess price multiplied by the applicable volumes not delivered by KUB to the Customer for such month. If the KUB System Supply Price exceeds the price of the Locked-Price Gas delivered to KUB on behalf of the Customer, the Customer shall receive a Price Cashout Credit equal to the excess price multiplied by the applicable volumes not delivered by KUB to the Customer for such month.

A Customer receiving service under the Pricing Rider shall not be permitted to revert to the Commodity Gas Rates set forth in its applicable commercial and industrial rate schedule so long as the Customer has any outstanding Locked-Price Gas commitments.

## Alternative Gas Pricing Guidelines

The President and Chief Executive Officer of KUB shall have the authority to adopt and amend such Alternative Gas Pricing Guidelines as are necessary to establish policies and procedures to implement the pricing alternatives set forth in the Pricing Rider.

All service provided under the Pricing Rider shall be subject to the Alternative Gas Pricing Guidelines which from time to time shall be in effect.

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## HISTORIC CAPITALIZATION AND CUSTOMERS

### Natural Gas Division Capitalization - Historic

| | Fiscal Year | Accumulated Earnings | Revenue Bonds | Revenue Notes | Total Capitalization | Debt as % of Capitalization |
|---|---|---|---|---|---|---|
| Historical | 2012 | $ 158,320,838 | $ 87,360,000 | $ - | $ 245,680,838 | 35.56% |
| | 2013 | $ 163,689,782 | $ 92,350,000 | $ - | $ 256,039,782 | 36.07% |
| | 2014 | $ 174,317,582 | $ 112,365,000 | $ - | $ 286,682,582 | 39.19% |
| | 2015 | $ 186,340,344 | $ 107,545,000 | $ - | $ 293,885,344 | 36.59% |
| | 2016 | $ 193,916,737 | $ 102,125,000 | $ - | $ 296,041,737 | 34.50% |

### Natural Gas Division Customers - Historic

(Measured by Bills Rendered)

| Historical Number of Customers | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|
| Residential | 88,404 | 88,912 | 88,579 | 89,321 | 90,395 |
| Commercial | 9,168 | 9,231 | 9,268 | 9,293 | 9,333 |
| Industrial | 86 | 82 | 83 | 79 | 80 |
| Total | 97,658 | 98,225 | 97,930 | 98,693 | 99,808 |

### Historic Natural Gas Division Use

The following table shows historical figures for Knox County's population, the Natural Gas Division's number of customers, and gas sales.

| Fiscal Year | Knox Co. Population | Number of Customers | Total Sales Therms |
|---|---|---|---|
| 2000 | 382,032 | 74,388 | 119,826,424 |
| 2005 | 409,530 | 88,664 | 114,625,160 |
| 2010 | 432,226 | 92,420 | 125,640,659 |
| 2012 | 441,311 | 97,658 | 105,117,297 |
| 2013 | 444,622 | 98,225 | 119,552,418 |
| 2014 | 448,644 | 97,930 | 124,516,704 |
| 2015 | 451,324 | 98,693 | 125,399,167 |
| 2016 | 451,324 | 99,808 | 112,569,404 |

# KNOXVILLE UTILITIES BOARD
# NATURAL GAS DIVISION
## OPERATING STATISTICS
for the Fiscal Years ending on June 30

| **Revenues:** | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|
| Residential | $ 46,481,476 | $ 57,901,404 | $ 65,725,301 | $ 64,219,032 | $ 48,250,670 |
| Commercial | 33,408,662 | 39,205,175 | 44,399,434 | 43,173,740 | 33,483,355 |
| Industrial | 3,519,613 | 2,588,304 | 2,740,353 | 2,812,024 | 2,042,906 |
| Transportation | 2,371,864 | 2,445,766 | 2,651,392 | 3,024,641 | 3,332,103 |
| **Total Sales Revenues** | $ 85,781,615 | $ 102,140,649 | $ 115,516,480 | $ 113,229,437 | $ 87,109,034 |
| Other Revenues | $ 979,072 | $ 1,456,606 | $ 1,629,254 | $ 939,347 | $ 1,332,110 |
| **Total Revenues** | $ 86,760,687 | $ 103,597,256 | $ 117,145,734 | $ 114,168,784 | $ 88,441,144 |
| **Gas Usage - Therms:** | | | | | |
| Residential | 40,617,163 | 50,408,439 | 55,254,696 | 54,158,219 | 43,682,276 |
| Commercial | 39,651,688 | 45,014,229 | 45,955,199 | 46,675,048 | 43,578,299 |
| Industrial | 5,854,174 | 4,389,592 | 4,173,547 | 4,393,471 | 3,994,951 |
| Transportation | 18,994,272 | 19,740,158 | 19,133,261 | 20,172,429 | 21,313,878 |
| **Total Gas Usage** | 105,117,297 | 119,552,418 | 124,516,703 | 125,399,167 | 112,569,404 |
| **Number of Customers:** | | | | | |
| Residential | 88,404 | 88,912 | 88,579 | 89,321 | 90,395 |
| Commercial | 9,168 | 9,231 | 9,268 | 9,293 | 9,333 |
| Industrial | 86 | 82 | 83 | 79 | 80 |
| **Total Customers** | 97,658 | 98,225 | 97,930 | 98,693 | 99,808 |
| **Purchased Gas:** | | | | | |
| Therms | 85,239,647 | 100,288,309 | 107,373,902 | 108,366,115 | 93,405,938 |
| Total Cost | $ 51,006,266 | $ 62,415,207 | $ 69,355,587 | $ 64,012,092 | $ 41,322,371 |
| **Wholesale Gas Cost:** | | | | | |
| as % of Sales | 59.46% | 61.11% | 60.04% | 56.53% | 47.44% |

# KNOXVILLE UTILITIES BOARD
## NATURAL GAS DIVISION
### CONDENSED STATEMENTS OF REVENUE, EXPENSES AND CHANGES IN NET POSITION
for the Fiscal Years ending on June 30

| | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|
| **Operating Revenues:** | $ 86,760,687 | $ 103,597,256 | $ 117,145,734 | $ 114,168,784 | $ 88,441,144 |
| **Operating Expenses:** | | | | | |
| Purchased gas | $ 51,006,266 | $ 62,415,207 | $ 69,351,087 | $ 63,735,433 | $ 41,212,470 |
| Distribution | 7,385,570 | 7,896,781 | 7,617,334 | 7,922,463 | 8,304,516 |
| Consumer service | 2,447,805 | 2,483,563 | 2,626,258 | 2,687,961 | 2,676,224 |
| Administrative and general | 7,255,134 | 6,333,489 | 6,459,558 | 5,842,471 | 5,983,853 |
| Provision for depreciation | 8,277,943 | 9,112,867 | 9,674,685 | 10,894,826 | 11,481,432 |
| Taxes and tax equivalents | 6,042,429 | 6,275,336 | 6,336,412 | 6,657,038 | 7,390,744 |
| **Total Operating Expenses** | $ 82,415,147 | $ 94,517,243 | $ 102,065,334 | $ 97,740,192 | $ 77,049,239 |
| Operating income | $ 4,345,539 | $ 9,080,013 | $ 15,080,400 | $ 16,428,592 | $ 11,391,905 |
| **Non-Operating Revenues / Expenses:** | | | | | |
| Contributions in aid of construction | $ 890,983 | $ 1,528,863 | $ 4,381,057 | $ 450,281 | $ 7,078,153 |
| Interest and dividend income | 239,596 | 148,552 | 143,753 | 158,779 | 183,418 |
| Interest expense | (3,825,625) | (3,779,522) | (4,771,622) | (4,642,526) | (4,104,192) |
| Write-down of plant for costs | (890,983) | (1,528,863) | (4,381,057) | (450,281) | (7,078,153) |
| Other | (208,031) | (80,099) | 175,269 | 211,080 | 105,262 |
| **Total Non-Operating** | (3,794,060) | (3,711,069) | (4,452,600) | (4,272,667) | (3,815,512) |
| Change in Net Position before Capital Contributions | $ 551,480 | $ 5,368,944 | $ 10,627,800 | $ 12,155,925 | $ 7,576,393 |
| Capital Contributions | - | - | - | 4,353 | - |
| **Change in Net Position** | $ 551,480 | $ 5,368,944 | $ 10,627,800 | $ 12,160,278 | $ 7,576,393 |
| Net Position, beginning of year | $ 157,769,358 | $ 158,320,838 | $ 163,689,782 | $ 174,317,582 | $ 186,340,344 |
| Adjustment | - | - | - | (137,516) | - |
| **Net Position, end of year** | **$ 158,320,838** | **$ 163,689,782** | **$ 174,317,582** | **$ 186,340,344** | **$ 193,916,737** |

*Source:* The above amounts have been derived from the Annual Audited Financial Statements of the Knoxville Utilities Board - Natural Gas Division and the Board's internal financial records should be read in conjunction therewith.

## OPERATING AND FINANCIAL HISTORY OF THE NATURAL GAS DIVISION

### Sales in Therms

| Fiscal Year | Residential | Commercial | Industrial | Off-System | Transportation | Total |
|---|---|---|---|---|---|---|
| 2007 | 50,639,562 | 42,413,316 | 9,286,872 | - | 13,124,414 | 115,464,164 |
| 2008 | 48,738,963 | 40,885,877 | 6,780,020 | - | 14,160,917 | 110,565,777 |
| 2009 | 52,520,371 | 39,434,026 | 5,808,523 | - | 14,872,849 | 112,635,769 |
| 2010 | 56,800,384 | 43,104,578 | 6,971,171 | - | 18,764,526 | 125,640,659 |
| 2011 | 52,999,976 | 41,681,964 | 6,519,234 | - | 20,032,953 | 121,234,127 |
| 2012 | 40,617,163 | 39,651,688 | 5,854,174 | - | 18,994,272 | 105,117,297 |
| 2013 | 50,408,439 | 45,014,229 | 4,389,592 | - | 19,740,158 | 119,552,418 |
| 2014 | 55,254,696 | 45,955,199 | 4,173,547 | - | 19,133,261 | 124,516,703 |
| 2015 | 54,158,219 | 46,675,048 | 4,393,471 | - | 20,172,429 | 125,399,167 |
| 2016 | 43,682,276 | 43,578,299 | 3,994,951 | - | 21,313,878 | 112,569,404 |

### Total Operating Revenue

| Fiscal Year | Residential | Commercial | Industrial | Off-System | Transportation | Other | Total |
|---|---|---|---|---|---|---|---|
| 2007 | $ 73,688,347 | $ 52,375,780 | $ 9,031,758 | $ - | $ 1,046,189 | $ 1,197,732 | $ 137,339,806 |
| 2008 | $ 74,959,370 | $ 54,107,325 | $ 7,291,449 | $ - | $ 1,776,955 | $ 1,385,813 | $ 139,520,912 |
| 2009 | $ 84,926,491 | $ 56,339,497 | $ 6,482,863 | $ - | $ 1,887,123 | $ 169,895 | $ 149,805,869 |
| 2010 | $ 69,566,517 | $ 42,745,202 | $ 4,746,431 | $ - | $ 2,360,159 | $ 272,725 | $ 119,691,035 |
| 2011 | $ 60,012,290 | $ 38,631,195 | $ 4,154,102 | $ - | $ 2,479,626 | $ 1,005,009 | $ 106,282,222 |
| 2012 | $ 46,481,476 | $ 33,408,662 | $ 3,519,613 | $ - | $ 2,371,864 | $ 979,072 | $ 86,760,687 |
| 2013 | $ 57,901,404 | $ 39,205,175 | $ 2,588,304 | $ - | $ 2,445,766 | $ 1,456,606 | $ 103,597,256 |
| 2014 | $ 65,725,301 | $ 44,399,434 | $ 2,740,353 | $ - | $ 2,651,392 | $ 1,629,254 | $ 117,145,734 |
| 2015 | $ 64,219,032 | $ 43,173,740 | $ 2,812,024 | $ - | $ 3,024,641 | $ 939,347 | $ 114,168,784 |
| 2016 | $ 48,250,670 | $ 33,483,355 | $ 2,042,906 | $ - | $ 3,332,103 | $ 1,332,110 | $ 88,441,144 |

### Growth Rates for Key Operating Data

| | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 |
|---|---|---|---|---|---|
| Number of Customers | 0.83% | 0.58% | -0.30% | 0.78% | 0.71% |
| Total Sales (Therms) | -13.29% | 13.73% | 4.15% | 0.71% | -10.23% |
| Total Operating Revenues | -18.37% | 19.41% | 13.08% | -2.54% | -22.53% |

## TEN LARGEST GAS SYSTEM CUSTOMERS - 2016

The ten largest Gas System customers, as of June 30, 2016, in order of total sales generated are listed below. Those ten gas customers represent 10.4% of the total gas sales based on revenue and 26.86% of division sales volumes (therms).

| | Customer | Consumption Therms | Gas Sales Revenue | Percent of Sales Revenue |
|---|---|---|---|---|
| 1. | University of Tennessee | 11,947,795 | $ 4,124,115 | 4.73% |
| 2. | Knox County Schools | 847,249 | $ 814,506 | 0.94% |
| 3. | Valley Proteins Inc | 1,372,887 | $ 614,336 | 0.71% |
| 4. | *Gerdau Ameristeel** | 5,210,188 | $ 593,964 | 0.68% |
| 5. | Green Mountain Coffee Roasters Inc | 820,263 | $ 558,262 | 0.64% |
| 6. | Exedy America Corporation | 702,367 | $ 541,656 | 0.62% |
| 7. | *Knoxville HMA Holdings LLC** | 1,975,006 | $ 487,816 | 0.56% |
| 8. | *Rohm & Haas Tennessee Inc** | 2,183,117 | $ 461,437 | 0.53% |
| 9. | *Tamko** | 3,392,036 | $ 438,886 | 0.50% |
| 10. | *Fort Sanders Presbyterian Hospital** | 1,781,804 | $ 427,492 | 0.49% |
| | **TOTAL** | **30,232,712** | **$ 9,062,470** | **10.40%** |

**KUB Transport Customer*

| | | |
|---|---|---|
| Total Gas Sales Revenue | | $87,109,034 |
| Top 10 as Percent of Total Gas Sales Revenue | | 10.40% |
| Total Gas Sales Volume (Therms) | 112,569,404 | |
| Top 10 as Percent of Total Gas Sales Volume | 26.86% | |

# KNOXVILLE UTILITIES BOARD
# NATURAL GAS DIVISION
## BONDS OUTSTANDING

The following table shows the outstanding bond indebtedness of the Natural  Gas Division.

| Amount Issued | Series | Due Date | Interest Rates | Outstanding as of August 05, 2016 (1) |
|---|---|---|---|---|
| $ 13,985,000 | Gas System Revenue Refunding Bonds, Series L-2005 | 03-01-27 | Fixed | $ 10,020,000 |
| 12,000,000 | Gas System Revenue Bonds, Series N-2007 | 03-01-17 | Fixed | 550,000 |
| 12,000,000 (2) | Gas System Revenue Bonds, Series P-2010 (Federal Taxable Build America Bonds) | 03-01-32 | Fixed | 12,000,000 |
| 24,920,000 | Gas System Revenue Refunding Bonds, Series Q-2012 | 03-01-29 | Fixed | 22,645,000 |
| 10,000,000 | Gas System Revenue Bonds, Series R-2012 | 03-01-33 | Fixed | 9,400,000 |
| 11,580,000 | Gas System Revenue Refunding Bonds, Series S-2013 | 03-01-31 | Fixed | 11,430,000 |
| 25,000,000 | Gas System Revenue Bonds, Series T-2013 | 03-01-35 | Fixed | 24,400,000 |
| 11,780,000 | Gas System Revenue Refunding Bonds, Series U-2015 | 03-01-31 | Fixed | 11,680,000 |
| 12,000,000 | Gas System Revenue Bonds, Series V-2016 (Issued 8-5-2016) | 03-01-46 | Fixed | 12,000,000 |
| $ 133,265,000 | **TOTAL DEBT** | | | $ 114,125,000 |
| $ 9,435,000 | Gas System Revenue Refunding Bonds, Series W-2017 | 03-01-27 | Fixed | $ 9,435,000 |
| (13,985,000) | Less: Bonds Refinanced (Series L-2005) | | | (9,295,000) |
| $ 128,715,000 | **TOTAL INDEBTEDNESS** | | | $ 114,265,000 |

**NOTES:**

(1) The above figures do not include short-term notes outstanding, if any. For more information, see the notes to the Financial Statements in the FINANCIAL STATEMENTS included herein.

(2) The original federal subsidy of 35.0% on the Gas System Revenue Bonds, Series P-2010 (Federally Taxable Build America Bonds) has been reduced by 6.8% for the federal fiscal year ending September 30, 2016 and by 6.9% for the federal fiscal year ending September 30, 2017 as a result of the sequestration by the Budget Control Act of 2011. After October 1, 2017, the sequestration rate will be subject to change.

# KNOXVILLE UTILITIES BOARD
## NATURAL GAS DIVISION
DEBT SERVICE REQUIREMENTS

| Fiscal | Outstanding Fiscal Year Debt Service on Bonds - as of August 05, 2016 | | | | Estimated Gas System Revenue Refunding Bonds, Series W-2017 | | | % Principal Repaid on Series | Less: Refunded Bonds | | | TOTAL DEBT SERVICE (1) | | | | % Principal Repaid on |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | Principal | Interest | Estimated Rebate (2) | Total | Principal | Interest (3) | Total | W-2017 Bonds | Principal | Interest | Total | Principal | Interest | Estimated Rebate (2) | Total | All Debt |
| 2017 | $ 5,675,000 | $ 4,204,902 | $ (226,045) | $ 9,653,858 | $ - | $ - | $ - | 0.00% | $ - | $ - | $ - | $ 5,675,000 | $ 4,204,902 | $ (226,045) | $ 9,653,858 | 4.97% |
| 2018 | 5,815,000 | 4,165,098 | (219,808) | 9,760,290 | 885,000 | 192,229 | 1,077,229 | | (760,000) | (406,840) | (1,166,840) | 5,940,000 | 3,950,486 | (219,808) | 9,670,679 | |
| 2019 | 6,030,000 | 3,959,238 | (212,227) | 9,777,011 | 870,000 | 205,720 | 1,075,720 | | (795,000) | (372,640) | (1,167,640) | 6,105,000 | 3,792,318 | (212,227) | 9,685,091 | |
| 2020 | 6,235,000 | 3,738,575 | (203,376) | 9,770,199 | 885,000 | 190,495 | 1,075,495 | | (830,000) | (336,865) | (1,166,865) | 6,290,000 | 3,592,205 | (203,376) | 9,678,829 | |
| 2021 | 6,490,000 | 3,472,625 | (193,611) | 9,769,014 | 900,000 | 173,680 | 1,073,680 | 37.52% | (865,000) | (299,515) | (1,164,515) | 6,525,000 | 3,346,790 | (193,611) | 9,678,179 | 26.72% |
| 2022 | 6,730,000 | 3,193,456 | (182,606) | 9,740,850 | 925,000 | 154,780 | 1,079,780 | | (910,000) | (260,590) | (1,170,590) | 6,745,000 | 3,087,646 | (182,606) | 9,650,040 | |
| 2023 | 7,005,000 | 2,918,419 | (170,881) | 9,752,538 | 945,000 | 133,505 | 1,078,505 | | (945,000) | (223,053) | (1,168,053) | 7,005,000 | 2,828,871 | (170,881) | 9,662,990 | |
| 2024 | 7,250,000 | 2,656,494 | (158,718) | 9,747,775 | 965,000 | 110,825 | 1,075,825 | | (980,000) | (182,890) | (1,162,890) | 7,235,000 | 2,584,429 | (158,718) | 9,660,710 | |
| 2025 | 6,595,000 | 2,382,919 | (144,762) | 8,833,157 | 995,000 | 85,735 | 1,080,735 | | (1,025,000) | (141,240) | (1,166,240) | 6,565,000 | 2,327,414 | (144,762) | 8,747,652 | |
| 2026 | 6,835,000 | 2,139,031 | (130,325) | 8,843,707 | 1,015,000 | 58,870 | 1,073,870 | 88.87% | (1,065,000) | (96,140) | (1,161,140) | 6,785,000 | 2,101,761 | (130,325) | 8,756,437 | 56.77% |
| 2027 | 7,045,000 | 1,881,796 | (114,870) | 8,811,926 | 1,050,000 | 30,450 | 1,080,450 | | (1,120,000) | (49,280) | (1,169,280) | 6,975,000 | 1,862,966 | (114,870) | 8,723,096 | |
| 2028 | 6,210,000 | 1,612,654 | (97,755) | 7,724,899 | - | - | - | | - | - | - | 6,210,000 | 1,612,654 | (97,755) | 7,724,899 | |
| 2029 | 6,365,000 | 1,377,419 | (80,010) | 7,662,409 | - | - | - | | - | - | - | 6,365,000 | 1,377,419 | (80,010) | 7,662,409 | |
| 2030 | 5,785,000 | 1,141,369 | (61,530) | 6,864,839 | - | - | - | | - | - | - | 5,785,000 | 1,141,369 | (61,530) | 6,864,839 | |
| 2031 | 6,035,000 | 919,275 | (42,315) | 6,911,960 | - | - | - | 100.00% | - | - | - | 6,035,000 | 919,275 | (42,315) | 6,911,960 | 84.23% |
| 2032 | 4,125,000 | 683,325 | (21,700) | 4,786,625 | - | - | - | | - | - | - | 4,125,000 | 683,325 | (21,700) | 4,786,625 | |
| 2033 | 3,175,000 | 500,075 | - | 3,675,075 | - | - | - | | - | - | - | 3,175,000 | 500,075 | - | 3,675,075 | |
| 2034 | 2,525,000 | 376,950 | - | 2,901,950 | - | - | - | | - | - | - | 2,525,000 | 376,950 | - | 2,901,950 | |
| 2035 | 2,525,000 | 269,725 | - | 2,794,725 | - | - | - | | - | - | - | 2,525,000 | 269,725 | - | 2,794,725 | |
| 2036 | 450,000 | 162,500 | - | 612,500 | - | - | - | 100.00% | - | - | - | 450,000 | 162,500 | - | 612,500 | 95.43% |
| 2037 | 450,000 | 150,688 | - | 600,688 | - | - | - | | - | - | - | 450,000 | 150,688 | - | 600,688 | |
| 2038 | 475,000 | 138,313 | - | 613,313 | - | - | - | | - | - | - | 475,000 | 138,313 | - | 613,313 | |
| 2039 | 475,000 | 125,250 | - | 600,250 | - | - | - | | - | - | - | 475,000 | 125,250 | - | 600,250 | |
| 2040 | 500,000 | 112,188 | - | 612,188 | - | - | - | | - | - | - | 500,000 | 112,188 | - | 612,188 | |
| 2041 | 525,000 | 98,438 | - | 623,438 | - | - | - | 100.00% | - | - | - | 525,000 | 98,438 | - | 623,438 | 97.55% |
| 2042 | 525,000 | 84,000 | - | 609,000 | - | - | - | | - | - | - | 525,000 | 84,000 | - | 609,000 | |
| 2043 | 550,000 | 68,250 | - | 618,250 | - | - | - | | - | - | - | 550,000 | 68,250 | - | 618,250 | |
| 2044 | 550,000 | 51,750 | - | 601,750 | - | - | - | | - | - | - | 550,000 | 51,750 | - | 601,750 | |
| 2045 | 575,000 | 35,250 | - | 610,250 | - | - | - | | - | - | - | 575,000 | 35,250 | - | 610,250 | |
| 2046 | 600,000 | 18,000 | - | 618,000 | - | - | - | 100.00% | - | - | - | 600,000 | 18,000 | - | 618,000 | 100.00% |
| | **$ 114,125,000** | **$ 42,637,969** | **$ (2,260,539)** | **$ 154,502,430** | **$ 9,435,000** | **$ 1,336,289** | **$ 10,771,289** | | **$ (9,295,000)** | **$ (2,369,053)** | **$ (11,664,053)** | **$ 114,265,000** | **$ 41,605,205** | **$ (2,260,539)** | **$ 153,609,666** | |

**NOTES:**

(1) The above figures do not include short-term notes outstanding, if any. For more information, see the notes to the Financial Statements in the FINANCIAL STATEMENTS included herein.

(2) The original federal subsidy of 35.0% on the Gas System Revenue Bonds, Series P-2010 (Federally Taxable Build America Bonds) has been reduced by 6.8% for the federal fiscal year ending September 30, 2016 and by 6.9% for the federal fiscal year ending September 30, 2017 as a result of the sequestration by the Budget Control Act of 2011. After October 1, 2017, the sequestration rate will be subject to change.

(3) Estimated Interest Rates. Estimated Average Coupon 2.55%.

# KNOXVILLE UTILITIES BOARD
# NATURAL GAS DIVISION
## HISTORICAL DEBT COVERAGE ON OUTSTANDING GAS SYSTEM BONDS
For the Fiscal Years Ending on June 30

The historical coverage for the actual debt service requirements and the projected maximum annual debt service requirements (FY 2019) of the Outstanding Bonds and the Series W-2017 Bonds for fiscal years ended June 30, 2012 through June 30, 2016 is set forth below.

| | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|
| Operating revenues | $ 86,760,687 | $ 103,597,256 | $ 117,145,734 | $ 114,168,784 | $ 88,441,144 |
| Operating expenses * | (68,094,775) | (79,129,040) | (86,054,237) | (80,188,328) | (58,177,063) |
| Net income before depreciation & taxes | $ 18,665,912 | $ 24,468,216 | $ 31,091,497 | $ 33,980,456 | $ 30,264,081 |
| Other revenue (Net) | 239,596 | 148,552 | 143,753 | 158,779 | 183,418 |
| FICA & Medicare Tax Expense | (519,475) | (539,422) | (574,556) | (575,782) | (653,095) |
| Income available for debt service | $ 18,386,033 | $ 24,077,346 | $ 30,660,694 | $ 33,563,453 | $ 29,794,404 |
| Actual annual debt service requirements on outstanding bonds | $ 8,288,783 | $ 8,214,787 | $ 8,911,186 | $ 9,542,380 | $ 9,437,262 |
| Coverage (Times) | 2.22 x | 2.93 x | 3.44 x | 3.52 x | 3.16 x |
| Maximum annual debt ** service requirements (FY 2019) on Outstanding Bonds and the Series W-2017 Bonds | $ 9,897,318 | $ 9,897,318 | $ 9,897,318 | $ 9,897,318 | $ 9,897,318 |
| Coverage (Times) | 1.86 x | 2.43 x | 3.10 x | 3.39 x | 3.01 x |

* Excluding Provision for Depreciation and Taxes

** From Debt Service Requirements Chart.  Maximum debt excludes estimated BABS rebate.

APPENDIX C-2

# NATURAL GAS DIVISION
# REPORT OF INDEPENDENT AUDITORS AND FINANCIAL STATEMENTS

Knoxville Utilities Board

# Gas Division

## Financial Statements and Supplemental Information
## June 30, 2016 and 2015

### KUB Board of Commissioners

Nikitia Thompson - Chair

Sara Hedstrom Pinnell - Vice Chair

Dr. Jerry W. Askew

Kathy Hamilton

Celeste Herbert

Eston Williams

John Worden

### Management

**Mintha Roach**
President and
Chief Executive Officer

**Bill Elmore**
Executive Vice President and
Chief Operating Officer

**Mark Walker**
Senior Vice President and
Chief Financial Officer

**Susan Edwards**
Senior Vice President and
Chief Administrative Officer

**Eddie Black**
Senior Vice President

**Mike Bolin**
Vice President

**Julie Childers**
Vice President

**Derwin Hagood**
Vice President

**Dawn Mosteit**
Vice President

**Paul Randolph**
Vice President

**Dennis Upton**
Vice President

# Knoxville Utilities Board Gas Division
## Index
## June 30, 2016 and 2015

9717 Cogdill Road
Suite 201
Knoxville, TN 37932

Coulter & Justus, P.C.

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# Report of Independent Auditors

Board of Commissioners
Gas Division of the Knoxville Utilities Board
Knoxville, Tennessee

We have audited the accompanying financial statements of the Gas Division (the Division) of the Knoxville Utilities Board, a component unit of the City of Knoxville, Tennessee, as of and for the years ended June 30, 2016 and 2015, and the related notes to the financial statements, which collectively comprise the Division's basic financial statements as listed in the index.

**Management's Responsibility for the Financial Statements**

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

**Auditor's Responsibility**

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Division's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Division's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

**Opinion**

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Gas Division of the Knoxville Utilities Board as of June 30, 2016 and 2015, and the changes in financial position and cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Board of Commissioners
Gas Division of the Knoxville Utilities Board
Knoxville, Tennessee

**Other Matters**

*Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 3 through 23 and the required supplementary information on pages 52 through 54 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

*Other Information*

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Division's basic financial statements. The supplemental information is presented for purposes of additional analysis and is not a required part of the basic financial statements. The supplemental information has not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we do not express an opinion or provide any assurance on it.

**Other Reporting Required by Government Auditing Standards**

In accordance with *Government Auditing Standards*, we have also issued our report dated October 27, 2016, on our consideration of the Division's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Division's internal control over financial reporting and compliance.

Coulter & Justus, P.C.

Knoxville, Tennessee
October 27, 2016

Knoxville Utilities Board (KUB), comprised of Electric Division, Gas Division, Water Division, and Wastewater Division (Divisions), is reported as a component unit enterprise fund in the financial statements of the City of Knoxville. KUB's responsibility is to oversee the purchase, production, distribution, and processing of electricity, natural gas, water, and wastewater services. A seven-member Board of Commissioners (Board) governs KUB. The Board has all powers to construct, acquire, expand, and operate the Divisions. It has full control and complete jurisdiction over the management and operation of the Divisions. The Gas Division (Division) provides services to certain customers in Knox County and portions of Anderson and Loudon counties. The Division's accounts are maintained in conformity with the Uniform System of Accounts of the Federal Energy Regulatory Commission and the Governmental Accounting Standards Board, as applicable. The financial statements present only the Gas Division and do not purport to, and do not, present fairly the consolidated financial position of Knoxville Utilities Board at June 30, 2016 and 2015, and the changes in its financial position for the years then ended in conformity with accounting principles generally accepted in the United States of America.

The Division's discussion and analysis is designed to (a) assist the reader in focusing on significant financial issues, (b) provide an overview of the Division's financial activity, (c) identify major changes in the Division's financial position, and (d) identify any financial concerns.

The Division's Management Discussion and Analysis (MD&A) focuses on the fiscal year ending June 30, 2016 activities, resulting changes and current known facts, and should be read in conjunction with the Division's financial statements.

## Gas Division Highlights

### System Highlights

KUB's natural gas system serves 99,808 customers, and its service territory covers 284 square miles. KUB maintains 2,316 miles of service mains to provide 11.4 million dekatherms of natural gas to its customers annually.

KUB's natural gas system service territory experienced the second mildest winter in the last forty years. As a result, natural gas sales were 10.2 percent less than the previous fiscal year. Gas Division margin (operating revenue less purchased gas cost) was $3.2 million lower in fiscal year 2016, reflecting a decrease in sales volumes from a mild winter and additional revenue from gas system rate increases which were effective in October 2014 and October 2015.

The natural gas system's peak demand occurred February 2015 at 136,356 dekatherms. The previous natural gas system peak was 133,366 dekatherms in January 2014.

The typical residential gas customer's average monthly gas bill was $52.51 for the twelve months ending June 30, 2016, representing a decrease of $4.64 compared to last year based on normalized sales.

The natural gas system has added approximately 1,583 customers over the past three years representing annual growth of less than one percent.

### Century II Infrastructure Program

Century II is KUB's proactive long-range program to improve and maintain the electric, natural gas, water and wastewater systems for its customers. It includes maintenance and asset replacement strategies for each system and establishes sustainable replacement cycles. Century II moves KUB into its second century of service by improving each system through sound planning, resource allocation, and continued, but accelerated, investment.

In 2013, the Board extended the funding approach for Century II to include the natural gas system. The Board formally endorsed by resolution, a ten year funding plan for the Gas Division, which includes a combination of rate increases and debt issues to fully fund the natural gas system's Century II program.

In April 2014, KUB management provided the Board an updated assessment of the overall condition of each utility system, including a recommendation for annual rate increases for each division for the next three fiscal years.

In June 2014, the Board approved the proposed three annual rate increases for the Gas Division. Each gas rate increase will generate $1.8 million in additional annual Gas Division revenue.

In fiscal year 2015, KUB concluded the smart grid pilot project, of which a portion of the project was funded by a United States Department of Energy Smart Grid Investment Grant (SGIG). This grant was received by KUB in 2009 as part of the American Reinvestment and Recovery Act (ARRA). Based upon the success of that pilot, KUB formed a plan to move forward with a Century II Grid Modernization initiative, which includes advanced metering for all KUB customers, a telecommunication system linking critical KUB infrastructure, and an increased investment in automation technology to help operate KUB's energy and water distribution systems.

KUB replaced 4.2 miles of cast iron/ductile iron gas main during fiscal year 2016, which was less than originally forecast due to a shift in focus to other gas system improvements.

The South Loop project that included a new 8 mile transmission main in the southwest portion of KUB's service territory was completed in October 2015. The South Loop provides additional system capacity to meet the increased natural gas demands of the University of Tennessee, in addition to other potential growth opportunities in that portion of KUB's gas service territory.

## Financial Highlights

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

The Division's net position increased $7.6 million in fiscal year 2016. This increase was $4.5 million less than the prior year's change in net position. A restatement to the fiscal year 2014's net position based on a change in method of accounting for the pension reduced the total net position by $0.1 million during fiscal year 2015.

Operating revenue decreased $25.7 million or 22.5 percent. The decrease is attributable to a decrease of 10.2 percent in billed sales volumes and lower wholesale gas costs, which were directly flowed through to KUB's natural gas rates through the Purchased Gas Adjustment mechanism. Purchased gas expense was $22.5 million or 35.3 percent lower due to reduced customer demand from the mild winter and lower natural gas commodity prices. Margin on gas sales (operating revenue less purchased gas expense) decreased $3.2 million or 6.4 percent, reflecting the decrease in gas sales volumes partially offset by additional revenue from the rate increases.

Operating expenses (excluding purchased gas expense) increased $1.8 million or 5.4 percent. Taxes and tax equivalents increased $0.7 million and depreciation expense was $0.6 million higher than the prior year. Operating and maintenance (O&M) expenses were $0.5 million more than the prior fiscal year.

Wholesale purchased gas expense represented forty seven percent of natural gas sales revenue for the fiscal year ended June 30, 2016.

Interest income was consistent with the prior fiscal year. Interest expense decreased $0.5 million, the result of lower interest costs from the refinancing of certain outstanding bonds in April 2015.

Total plant assets (net) increased $15.5 million or 6.2 percent reflecting capital investment associated with the replacement of key gas system assets and other major system projects, including the South Loop.

Long-term debt represented 34.5 percent of the Division's capital structure as of June 30, 2016, as compared to 36.6 percent last year. Capital structure equals long-term debt (which includes the current and long-term portion of revenue bonds and notes) plus net position.

The Division's bond covenants require a debt service coverage ratio of at least 1.2 times the maximum principal and interest payments over the life of the Division's outstanding bonds. Current year debt coverage for the fiscal year was 3.13. Maximum debt service coverage was 3.16.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

The Division's net position increased $12.1 million in fiscal year 2015. This increase was $1.5 million greater than the prior year's change in net position. A restatement to the prior fiscal year's net position based on a change in method of accounting for the pension reduced the total net position by $0.1 million during fiscal year 2015. This change resulted in a net increase of $12 million or 6.9 percent in the Division's net position.

Operating revenue decreased $3 million or 2.5 percent. A modest increase of approximately one percent in sales volumes was offset by lower wholesale gas costs, which were directly flowed through to KUB's natural gas rates through the Purchased Gas Adjustment mechanism. Purchased gas expense was $5.6 million or 8.1 percent lower due to reduced natural gas commodity prices. Margin on gas sales (operating revenue less purchased gas expense) increased $2.6 million or 5.5 percent, reflecting the modest increase in gas sales volumes and additional revenue from the rate increases.

Operating expenses (excluding purchased gas expense) increased $1.3 million or 3.9 percent. Depreciation expense was $1.2 million higher than the prior year. Operating and maintenance (O&M) expenses were $0.2 million less than the prior fiscal year while taxes and tax equivalents increased $0.3 million.

Wholesale purchased gas expense represented 57 percent of natural gas sales revenue for the fiscal year ended June 30, 2015.

Interest income was consistent with the prior fiscal year. Interest expense decreased $0.1 million, the result of lower interest costs from the refinancing of certain outstanding bonds in April 2015.

Total plant assets (net) increased $26.7 million or 12 percent over the end of the last fiscal year reflecting capital investment associated with the replacement of key gas system assets and other major system projects, including the South Loop.

Long-term debt represented 36.6 percent of the Division's capital structure as of June 30, 2015, as compared to 39.2 percent last year. Capital structure equals long-term debt (which includes the current and long-term portion of revenue bonds and notes) plus net position.

The Division's bond covenants require a debt service coverage ratio of at least 1.2 times the maximum principal and interest payments over the life of the Division's outstanding bonds. Current year debt coverage for the fiscal year was 3.52. Maximum debt service coverage was 3.53.

## Knoxville Utilities Board Gas Division - Financial Statements

The Division's financial performance is reported under three basic financial statements: the Statement of Net Position; the Statement of Revenues, Expenses and Changes in Net Position; and the Statement of Cash Flows.

### Statement of Net Position

The Division reports its assets, deferred outflows of resources, liabilities, deferred inflows of resources, and net position in the Statement of Net Position. Assets are classified as current, restricted, gas plant in service, or other assets.

Liabilities are classified as current, other, or long-term debt. Net position is classified as net investment in capital assets; restricted; or unrestricted. Net position represents what was previously reported as accumulated or retained earnings. Net position tells the user what the Division has done with its accumulated earnings not just the balance.

Net investment in capital assets is the net book value of all capital assets less the outstanding balances of debt used to acquire, construct, or improve those assets.

Restricted net position includes assets that have been limited to specific uses by the Division's bond covenants or through resolutions passed by the KUB Board.

Unrestricted net position is a residual classification; the amount remaining after reporting net position as either invested in capital or restricted is reported there.

### Statement of Revenues, Expenses and Changes in Net Position

The Division reports its revenues and expenses (both operating and non-operating) on the Statement of Revenues, Expenses and Changes in Net Position. In addition, any contributions in aid of construction (funds received via grants, developers, etc. to fund capital projects) and associated write-downs of plant assets are reported on this statement.

Total revenue less total expense equals the change in net position for the reporting. Net position at the beginning of the period are increased or decreased, as applicable, by the change in net position for the reporting period.

The change in net position for the reporting period is added to the net position segment of the Statement of Net Position.

### Statement of Cash Flows

The Divisions reports its cash flows from operating activities, capital and related financing activities, and investing activities on its Statement of Cash Flows. This statement tells the user the Division's sources and uses of cash during the reporting period.

The statement indicates the Division's beginning cash balance and ending cash balance and how it was either increased or decreased during the reporting period.

The statement also reconciles cash flow back to operating income as it appears on the Statement of Revenues, Expenses and Changes in Net Position.

## Condensed Financial Statements

## Statement of Net Position

The following table reflects the condensed Statement of Net Position for the Gas Division compared to the prior year and the year preceding the prior year.

### Statements of Net Position
### As of June 30

| *(in thousands of dollars)* | **2016** | **2015** | **2014** |
|---|---|---|---|
| Current, restricted and other assets | $ 47,676 | $ 63,520 | $ 85,266 |
| Capital assets, net | 263,531 | 248,032 | 221,372 |
| Deferred outflows of resources | 3,005 | 1,925 | 512 |
| Total assets and deferred outflows of resources | 314,212 | 313,477 | 307,150 |
| Current and other liabilities | 19,875 | 20,070 | 22,182 |
| Long-term debt outstanding | 100,164 | 105,919 | 110,650 |
| Deferred inflows of resources | 257 | 1,148 | - |
| Total liabilities and deferred inflows of resources | 120,296 | 127,137 | 132,832 |
| Net position | | | |
| Net investment in capital assets | 159,696 | 138,973 | 107,234 |
| Restricted | 1,820 | 1,801 | 1,725 |
| Unrestricted | 32,400 | 45,566 | 65,359 |
| Total net position | $ 193,916 | $ 186,340 | $ 174,318 |

## Normal Impacts on Statement of Net Position

The following is a description of activities which will normally impact the comparability of the Statement of Net Position presentation.

- Change in net position (from Statement of Revenues, Expenses and Changes in Net Position): impacts (increase/decrease) current and other assets and/or capital assets and unrestricted net position.

- Issuing debt for capital: increases deferred outflows of resources and long-term debt.

- Spending debt proceeds on new capital: reduces current assets and increases capital assets.

- Spending of non-debt related current assets on new capital: (a) reduces current assets and increases capital assets and (b) reduces unrestricted net position and increases net investment in capital assets.

- Principal payment on debt: (a) reduces current and other assets and reduces long-term debt and (b) reduces unrestricted net position and increases net investment in capital assets.

- Reduction of capital assets through depreciation: reduces capital assets and net investment in capital assets.

## Impacts and Analysis

## Current, Restricted and Other Assets

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Current, restricted and other assets decreased $15.8 million or 24.9 percent. General fund cash and investments decreased $15.2 million primarily to fund capital expenditures. Operating contingency reserves increased $1.2 million. Accounts receivable decreased $1.5 million compared to June 2015.

KUB under recovered its wholesale gas costs by $2.2 million in fiscal year 2016 compared to a $1.1 million over recovery in fiscal year 2015. The under recovery of costs will be collected from customers next fiscal year through adjustments to rates via the Purchased Gas Adjustment. Gas storage decreased $1.4 million, reflecting lower commodity prices for natural gas for slightly higher storage volumes compared to the prior fiscal year.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Current, restricted and other assets decreased $21.7 million or 25.5 percent. General fund cash and investments decreased $17.8 million in order to fund capital expenditures. Operating contingency reserves increased $1 million. Accounts receivable decreased $2.3 million compared to June 2014. Gas storage decreased $0.8 million, reflecting lower commodity prices for natural gas which offset the impact of higher storage volumes.

## Capital Assets

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Capital assets increased $15.5 million or 6.2 percent. Major capital expenditures during the year included $15.1 million for the construction of mains and service extensions, $3.9 million for gas main replacement, $2.5 million for the replacement and relocation of gas system assets to accommodate Tennessee Department of Transportation (TDOT) highway improvement projects, and $1.4 million for upgrades to various information systems.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Capital assets increased $26.7 million or 12 percent. Major capital expenditures during the year included $24.2 million for the construction of mains and service extensions and $6 million for gas main replacement. The Division also retired $1.8 million of assets during the year.

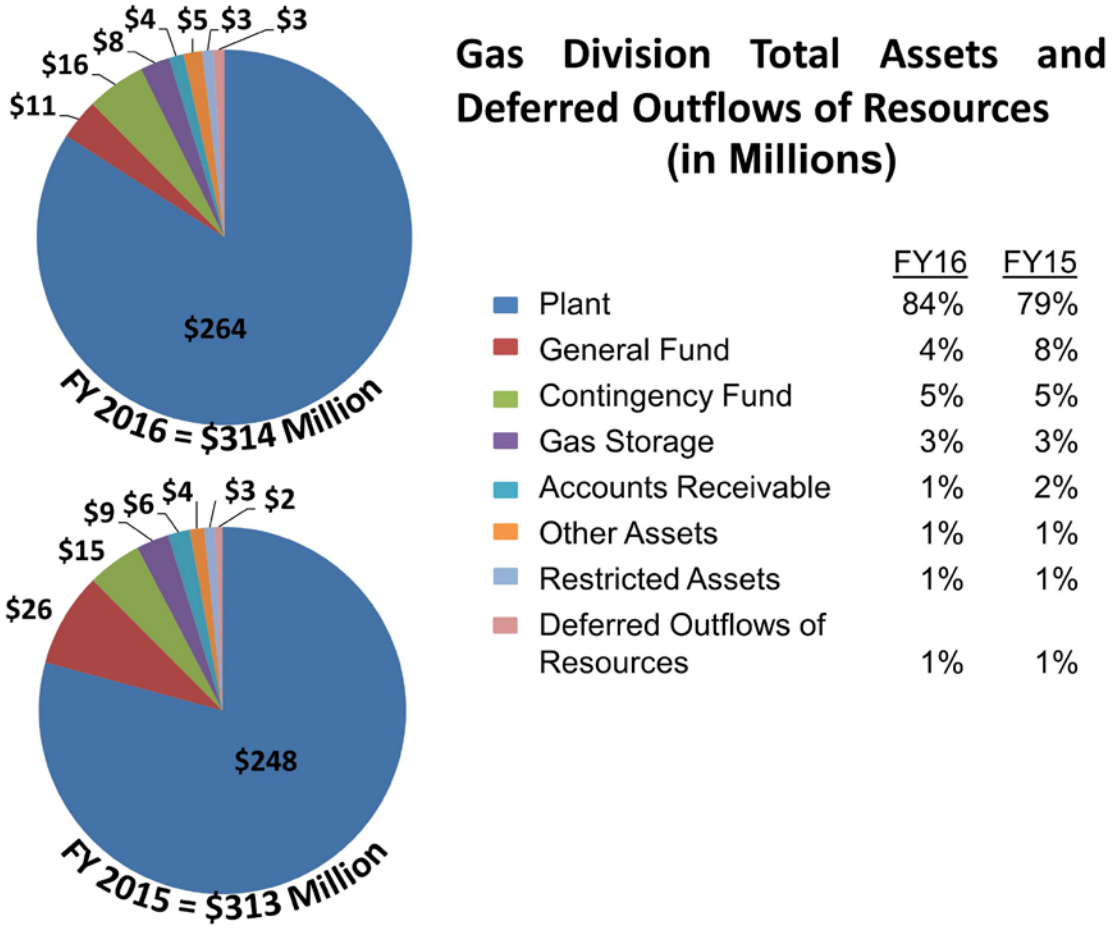
## Deferred Outflows of Resources

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Deferred outflows of resources increased $1.1 million compared to the prior fiscal year. This increase is attributable to a $1.2 million increase in pension outflow and a $0.1 million decrease in unamortized bond refunding costs.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Deferred outflows of resources increased $1.4 million compared to the prior fiscal year. This increase is attributable to a $0.8 million increase in unamortized bond refunding costs and a $0.6 million increase in pension outflow.



**Gas Division Total Assets and Deferred Outflows of Resources (in Millions)**

| | | FY16 | FY15 |
|---|---|---|---|
| 🟦 | Plant | 84% | 79% |
| 🟥 | General Fund | 4% | 8% |
| 🟩 | Contingency Fund | 5% | 5% |
| 🟪 | Gas Storage | 3% | 3% |
| 🟦 | Accounts Receivable | 1% | 2% |
| 🟧 | Other Assets | 1% | 1% |
| 🟦 | Restricted Assets | 1% | 1% |
| 🟥 | Deferred Outflows of Resources | 1% | 1% |

## Current and Other Liabilities

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Current and other liabilities decreased $0.2 million or 1 percent. Accounts payable decreased $0.4 million compared to the prior fiscal year. This was offset by an actuarially determined net pension obligation of $0.9 million recognized during fiscal year 2016.

KUB over recovered $1.1 million in wholesale gas costs of from its customers in fiscal year 2015 as compared to a $2.2 million under recovery in fiscal year 2016. The over recovery of costs was flowed back to KUB's gas customers during fiscal year 2016 through adjustments to rates via the Purchased Gas Adjustment.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Current and other liabilities decreased $2.1 million or 9.5 percent. The Division over recovered $1.1 million in wholesale gas costs from its customers in fiscal year 2015, as compared to $1.3 million over recovered in fiscal year 2014. This over recovery of costs will be flowed back to KUB's gas customers next fiscal year through adjustments to rates via the Purchased Gas Adjustment. Accounts payable decreased $1 million compared to the prior fiscal year. Current payables for bond debt increased $0.3 million and accrued interest on bonds decreased $0.1 million.

## Long-Term Debt

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Long-term debt was $5.8 million or 5.4 percent lower than the prior year, primarily due to $5.5 million of long-term bond debt that shifted to current liabilities as payable within the next year.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Long-term debt was $4.7 million or 4.3 percent lower than the prior year, primarily the result of the scheduled repayment of bond debt during the fiscal year.

## Deferred Inflows of Resources

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Deferred inflows of resources decreased $0.9 million compared to the prior fiscal year due to differences in pension inflows.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Deferred inflows of resources increased $1.1 million due to the addition of pension inflow.

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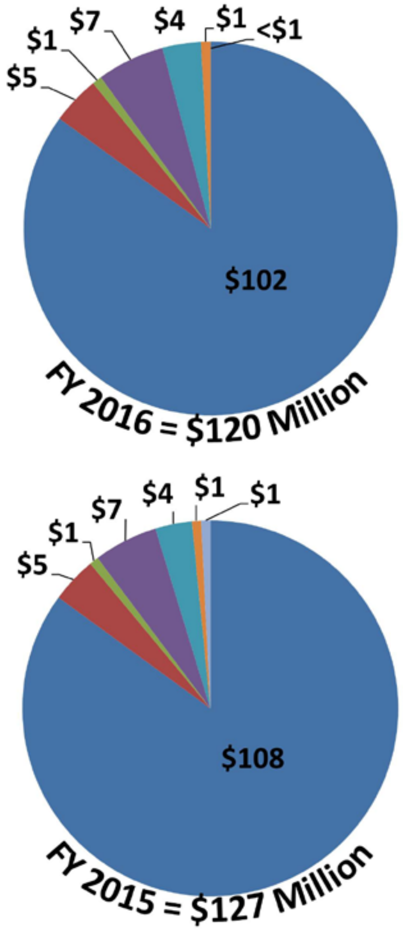

**Gas Division Total Liabilities and Deferred Inflows of Resources (in Millions)**

| | FY16 | FY15 |
|---|---|---|
| 🟦 Bond Debt | 85% | 84% |
| 🟥 Payables | 4% | 4% |
| 🟩 Misc Current | 1% | 1% |
| 🟪 Other Liabilities | 6% | 6% |
| 🟦 Customer Deposits | 3% | 3% |
| 🟧 Interest Accrued | 1% | 1% |
| 🟦 Deferred Inflows of Resources | <1% | 1% |

## Net Position

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Net investment in capital assets, net of debt increased $20.7 million or 14.9 percent, primarily from an increase in net plant in service of $15.5 million and a decrease of $5.8 million in long term debt. Restricted net position was consistent with the prior fiscal year. Unrestricted net position decreased $13.2 million primarily due to a $15.2 million decrease in general fund cash compared to June of the prior year.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Net investment in capital assets, net of debt increased $31.7 million or 29.6 percent, primarily from an increase in net plant in service of $26.7 million offset by a decrease of $4.7 million in long term debt. Restricted net position increased $0.1 million compared to the prior fiscal year. Unrestricted net position decreased $19.8 million primarily due to a $17.8 million decrease in general fund cash compared to June of the prior year.

## Statement of Revenues, Expenses and Changes in Net Position

The following table reflects the condensed Statement of Revenues, Expenses and Changes in Net Position for the Gas Division compared to the prior year and the year preceding the prior year.

### Statements of Revenues, Expenses and Changes in Net Position
### For the Years Ended June 30

| *(in thousands of dollars)* | 2016 | 2015 | 2014 |
|---|---|---|---|
| Operating revenues | $ 88,441 | $ 114,169 | $ 117,146 |
| Less: Purchased gas expense | 41,212 | 63,735 | 69,351 |
| Margin from sales | 47,229 | 50,434 | 47,795 |
| Operating expenses | | | |
| Distribution | 8,305 | 7,922 | 7,617 |
| Customer service | 2,676 | 2,688 | 2,626 |
| Administrative and general | 5,984 | 5,843 | 6,460 |
| Depreciation | 11,481 | 10,895 | 9,675 |
| Taxes and tax equivalents | 7,391 | 6,657 | 6,336 |
| Total operating expenses | 35,837 | 34,005 | 32,714 |
| Operating income | 11,392 | 16,429 | 15,081 |
| Interest income | 183 | 159 | 144 |
| Interest expense | (4,033) | (4,537) | (4,772) |
| Other income/(expense) | 34 | 105 | 175 |
| Change in net position before capital contributions | 7,576 | 12,156 | 10,628 |
| Capital contributions | - | 4 | - |
| Change in net position | $ 7,576 | $ 12,160 | $ 10,628 |

## Normal Impacts on Statement of Revenues, Expenses and Changes in Net Position

The following is a description of activities which will normally impact the comparability of the Statement of Revenues, Expenses and Changes in Net Position presentation.

- Operating revenue is largely determined by volume of natural gas sales for the fiscal year. Any change (increase/decrease) in retail gas rates would also be a cause of change in operating revenue. The Division utilizes a Purchased Gas Adjustment (PGA) mechanism in setting its monthly retail gas rates. Through the PGA, the Division adjusts its retail rates each month based on current wholesale gas prices. If wholesale gas prices increase/decrease, the Division increases/decreases its retail gas rates accordingly.

- Volumes of gas purchased from the Division's wholesale gas suppliers for resale to customers impact purchased gas expense. The Division purchases gas for resale to its customers from a variety of wholesale suppliers. Changes (increase/decrease) in wholesale gas prices would also result in a change in purchased gas expense.

- Operating expenses (distribution, customer service, administrative and general) are normally impacted by changes in areas including, but not limited to, labor costs (staffing, wage rates), active employee and retiree medical costs, and gas distribution system maintenance.

- Depreciation expense is impacted by plant additions and retirements during the fiscal year.

- Taxes and tax equivalents are impacted by plant additions/retirements, changes in property tax rates, and margin (operating revenue less purchased gas expense) levels.

- Interest income is impacted by the level of interest rates and investments.

- Interest expense on debt is impacted by the level of outstanding debt and the interest rates on the outstanding debt.

- Other income/(expense) is impacted by miscellaneous non-operating revenues and expenses.

## Impacts and Analysis

## Change in Net Position

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

The Division's net position increased $7.6 million. This increase was $4.5 million lower than the prior year's change in net position. A restatement to fiscal year 2014's net position based on a change in method of accounting for the pension reduced the total net position by $0.1 million during fiscal year 2015. Lower earnings were primarily attributable to decreased margin on gas sales.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

The Division's net position increased $12.1 million. This increase was $1.5 million greater than the prior year's change in net position. A restatement to the prior fiscal year's net position based on a change in method of accounting for the pension reduced the total net position by $0.1 million during fiscal year 2015. This change resulted in a net increase of $12 million or 6.9 percent in the Division's net position. Higher earnings were primarily attributable to increased margin on gas sales.

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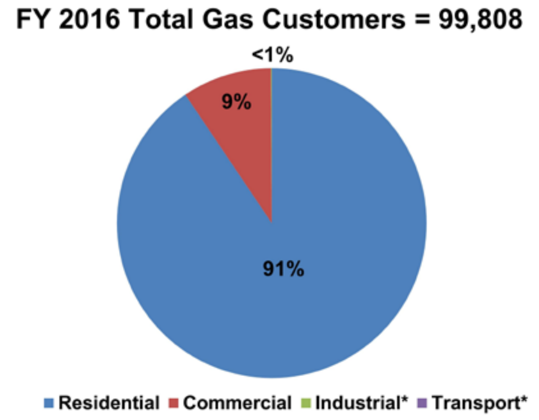
## Margin from Sales

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

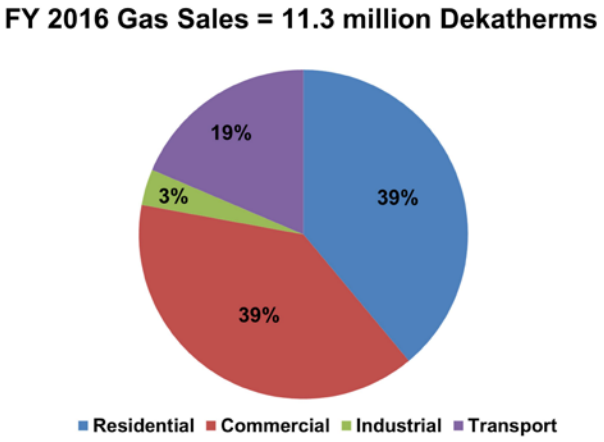
Margin on gas sales (operating revenue less purchased gas expense) decreased $3.2 million or 6.4 percent due to a 10.2 percent decrease in billed sales volumes offset by revenue from rate increases that were effective October 2014 and October 2015.

Operating revenue decreased $25.7 million or 22.5 percent for the fiscal year ending June 30, 2016. The gas system service territory experienced the second mildest winter in the last forty years. Billed sales were down 10.2 percent due to the warmer winter, and purchased gas commodity prices flowed through to customer rates were lower. However, additional revenue was generated from the rate increases.

Purchased gas expense decreased $22.5 million or 35.3 percent, due to lower customer demand and reduced commodity prices for natural gas during the fiscal year. KUB purchased 15.5 percent less gas from its suppliers during the fiscal year to meet customer demand and maintain gas storage levels. The net result was a 14.6 percent decrease in total volumes delivered to KUB's gas distribution system. The Division's weighted average cost of gas purchased for fiscal year 2016 was $2.49 per dekatherm, as compared to $3.62 per dekatherm last year.



*Industrial and Transport customers represent less than 1% of the total.



Residential customers, whose natural gas is primarily used as a heat source during winter months, accounted for 91 percent of customers billed and 39 percent of total volumes sold during the year.

Commercial and industrial sales volumes (including transportation customers) increased 3.3 percent. KUB's ten largest gas customers accounted for 28.1 percent of KUB's billed gas volumes. Those ten customers represent five industrial and five commercial customers, including one governmental customer.

KUB also has 18 transport customers who purchase gas directly from a supplier other than KUB. KUB provides transportation service on its gas distribution system to those customers.

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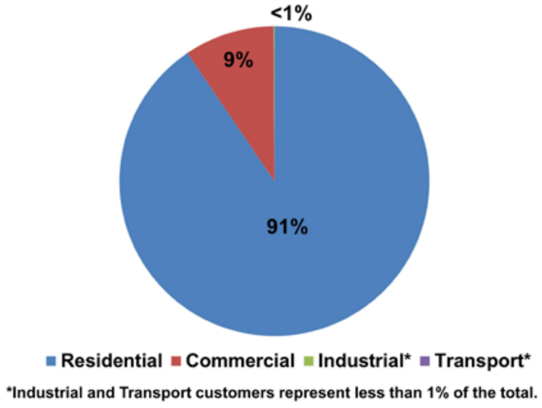
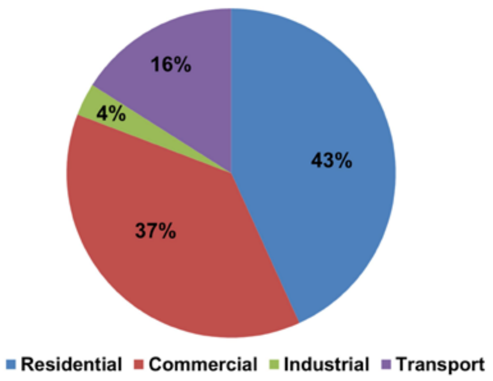
### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Margin on gas sales (operating revenue less purchased gas expense) increased $2.6 million or 5.5 percent due to a 0.7 percent increase in billed sales volumes as well as revenue from rate increases that were effective October 2013 and October 2014.

Operating revenue decreased $3 million or 2.5 percent for the fiscal year ending June 30, 2015, the net result of lower purchased gas commodity prices flowed through to customer rates and additional revenue from the rate increases.

Purchased gas expense decreased $5.6 million or 8.1 percent, due to reduced commodity prices for natural gas during the fiscal year. KUB purchased 2.3 percent more gas from its suppliers during the fiscal year to meet a modest increase in customer demand and maintain gas storage levels. The net result was a 0.9 percent increase in total volumes delivered to KUB's gas distribution system. The Division's weighted average cost of gas purchased for fiscal year 2015 was $3.62 per dekatherm, as compared to $4.08 per dekatherm last year.


**FY 2015 Total Gas Customers = 98,693**


**FY 2015 Gas Sales = 12.5 million Dekatherms**

Residential customers, whose natural gas is primarily used as a heat source during winter months, accounted for 91 percent of customers billed and 43 percent of total volumes sold during the year.

Commercial and industrial sales volumes (including transportation customers) decreased 2.9 percent. KUB's ten largest gas customers accounted for 23.3 percent of KUB's billed gas volumes. Those ten customers represent five industrial and five commercial customers, including one governmental customer. KUB also has 14 transport customers who purchase gas directly from a supplier other than KUB. KUB provides transportation service on its gas distribution system to those customers.

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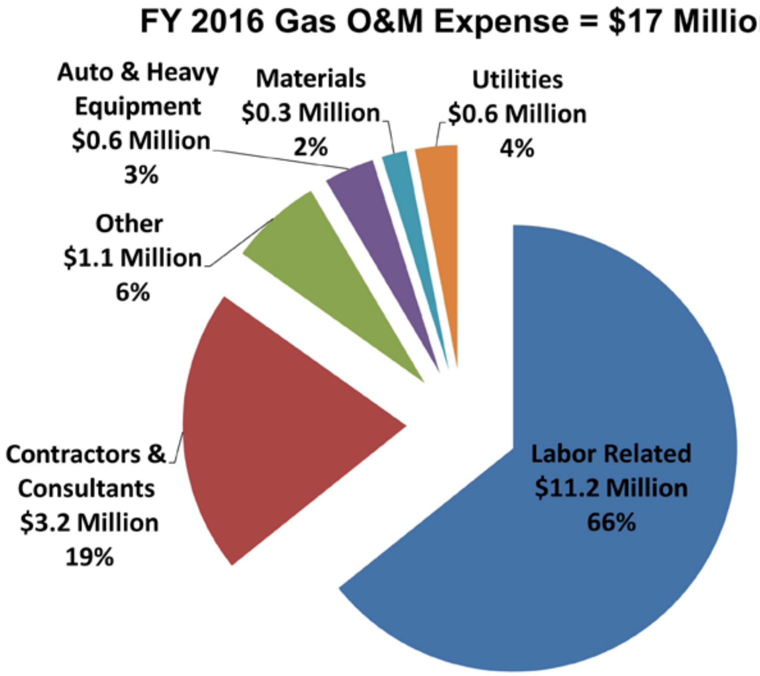
## Operating Expenses

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Operating expenses (excluding purchased gas expense) increased $1.8 million or 5.4 percent compared to fiscal year 2015. Operating expenses include operations and maintenance (O&M) expense, depreciation, and taxes/tax equivalents. O&M expenses can be further classified as distribution, customer service and administrative and general.

- Distribution system O&M expenses were $0.4 million higher than the prior fiscal year, due to an increase in labor related expenses.
- Customer service expenses were consistent with the prior fiscal year.
- Administrative and general expenses increased $0.1 million or 2.4 percent.

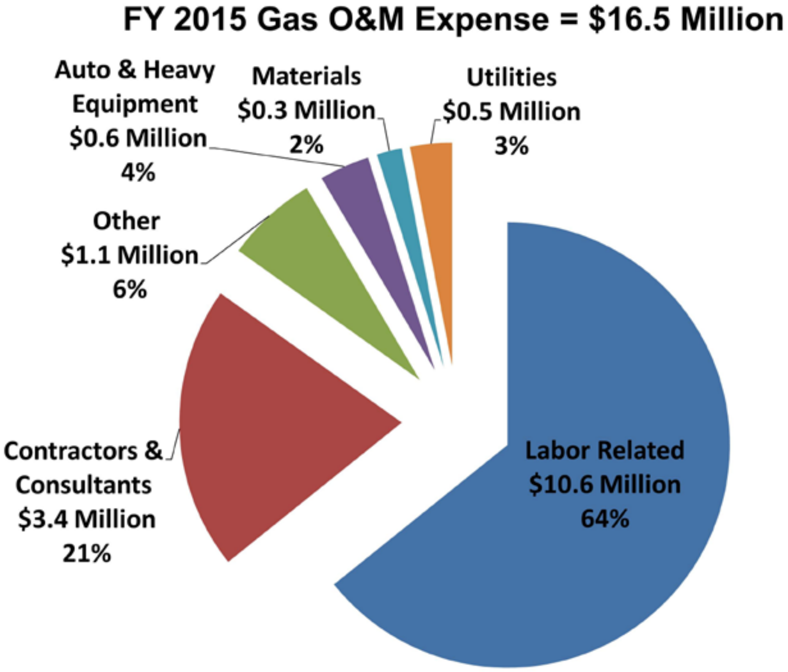


- Depreciation expense was $0.6 million higher than the prior year, primarily due to the increased depreciation on mains due to Century II replacement programs and the completion of the South Loop project.
- Taxes and tax equivalents were $0.7 million higher than the prior fiscal year due increased plant in service levels.

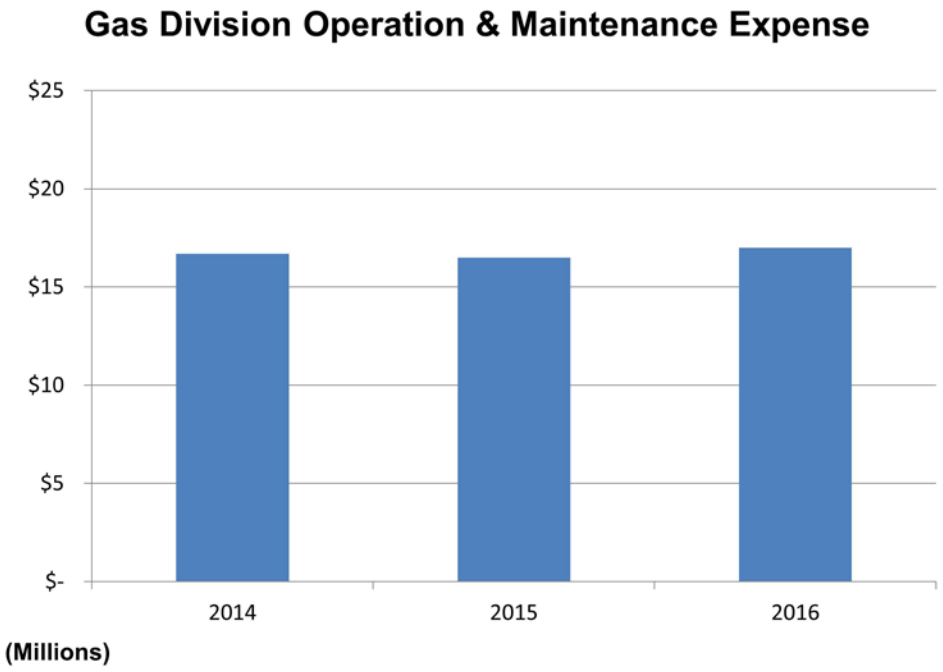
### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Operating expenses (excluding purchased gas expense) increased $1.3 million or 3.9 percent compared to fiscal year 2014. Operating expenses include operations and maintenance (O&M) expense, depreciation, and taxes/tax equivalents. O&M expenses can be further classified as distribution, customer service and administrative and general.

- Distribution system operating and maintenance expenses were $0.3 million higher than the prior fiscal year, due to an increase in labor related expenses.
- Customer service expenses increased $0.1 million compared to last fiscal year.
- Administrative and general expenses decreased $0.6 million or 9.6 percent primarily due to a decrease in pension expense.



- Depreciation expense was $1.2 million higher than the prior year, the result of a full year of depreciation for $23.4 million of assets added to plant in service in fiscal year 2014 and a partial year of depreciation for $17.6 million of assets added to plant in service in fiscal year 2015. In addition, $1.8 million in assets were retired during the fiscal year.
- Taxes and tax equivalents were $0.3 million higher than the prior fiscal year due to an increase in tax equivalent payments to the City of Knoxville, Knox County, and other taxing jurisdictions. The City of Knoxville's property tax rate increased this year and higher plant in service levels contributed to the growth in tax equivalent payments.



## Other Income and Expense

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Contributions in aid of construction increased $6.6 million compared to the prior fiscal year. This was primarily due to a $4 million contribution from the University of Tennessee, representing the remaining portion of the University's contribution for the South Loop project.

Interest income was consistent with the prior fiscal year.

Interest expense decreased $0.5 million compared with the prior year, reflecting interest savings from the bond refunding in April 2015.

Other income (net) was down $0.1 million from the prior fiscal year.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Contributions in aid of construction decreased $3.9 million. This was due to a $3.9 million contribution from the University of Tennessee during fiscal year 2014, representing a portion of the University's contribution for the South Loop project.

Interest income was consistent with the prior fiscal year.

Interest expense decreased $0.1 million compared with the prior year, reflecting interest savings from the bond refunding in April 2015 in addition to previous bond refundings.

Other income (net) was consistent with the prior fiscal year.

## Capital Assets

### Capital Assets
### As of June 30
### (Net of Depreciation)

*(in thousands of dollars)*

| | | 2016 | | 2015 | | 2014 |
|---|---|---|---|---|---|---|
| **Distribution Plant** | | | | | | |
| Mains | $ | 176,253 | | 149,720 | | 144,218 |
| Services and Meters/Regulators | | 57,053 | | 52,580 | | 50,238 |
| Other Accounts | | 845 | | 766 | | 901 |
| **Total Distribution Plant** | | 234,151 | $ | 203,066 | $ | 195,357 |
| **Total General Plant** | $ | 8,549 | | 7,688 | | 8,551 |
| **Total Plant Assets** | | 242,700 | $ | 210,754 | $ | 203,908 |
| Work In Progress | | 20,831 | | 37,278 | | 17,464 |
| **Total Net Plant** | $ | 263,531 | $ | 248,032 | $ | 221,372 |

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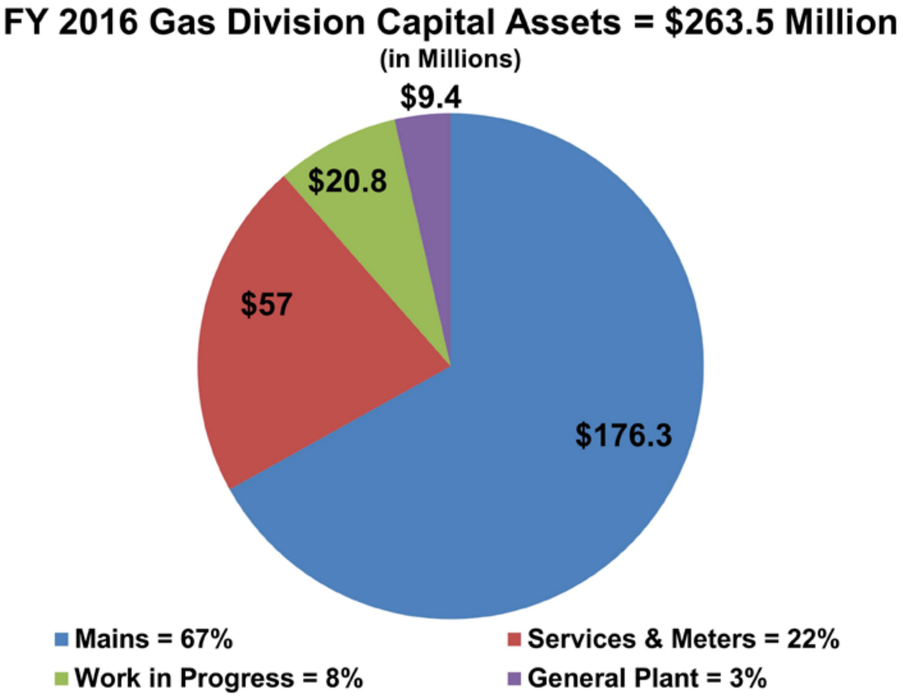
### *Fiscal Year 2016 Compared to Fiscal Year 2015*

As of June 30, 2016, the Division had $263.5 million invested in a variety of capital assets, as reflected in the schedule of capital assets, which represents a net increase (including additions, retirements, and depreciation) of $15.5 million or 6.2 percent over the end of last fiscal year.



Major capital asset expenditures during the year were as follows:

- $15.1 million for installation of new main and service extensions
    - $7.6 million for the South Loop project
- $3.9 million for main replacement
- $2.5 million for replacement and relocation of gas system assets to accommodate TDOT highway improvement projects
- $1.4 million for upgrades to various information systems

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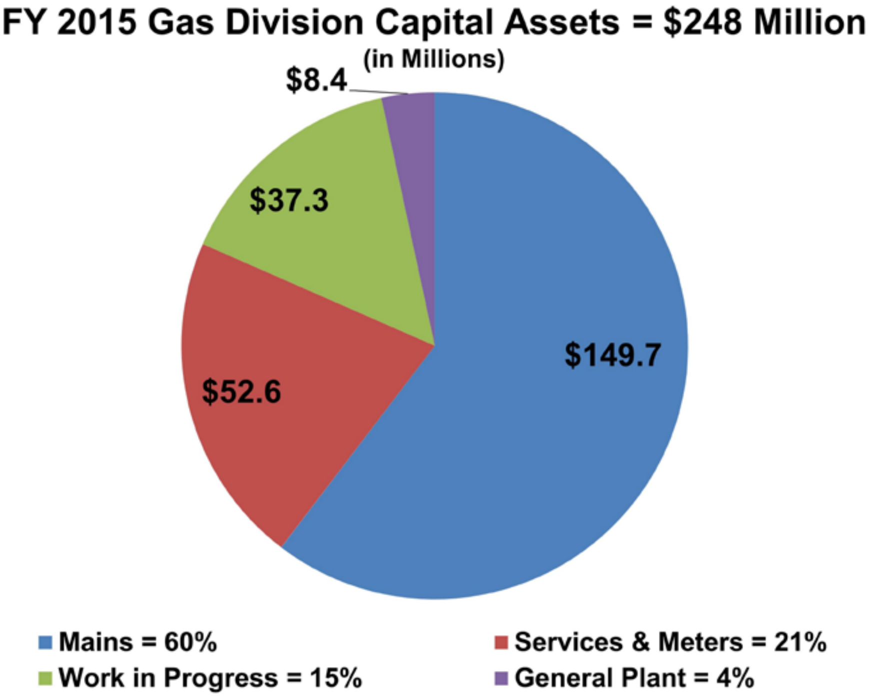
### *Fiscal Year 2015 Compared to Fiscal Year 2014*

As of June 30, 2015, the Division had $248 million invested in a variety of capital assets, as reflected in the schedule of capital assets, which represents a net increase (including additions, retirements, and depreciation) of $26.7 million or 12 percent over the end of last fiscal year.



Major capital asset expenditures during the year were as follows:

- $24.2 million for installation of new main and service extensions
- $6 million for main replacement
- $1.5 million for information systems upgrades

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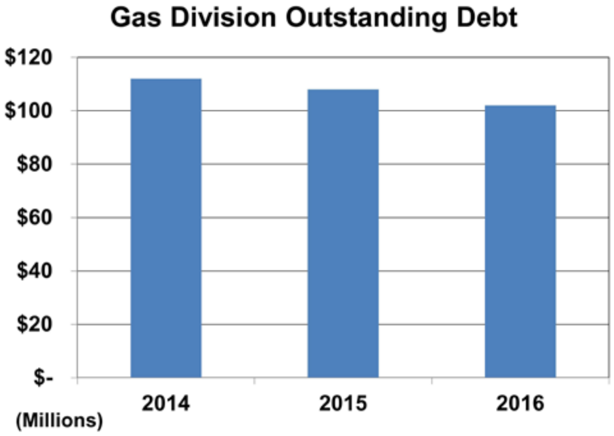
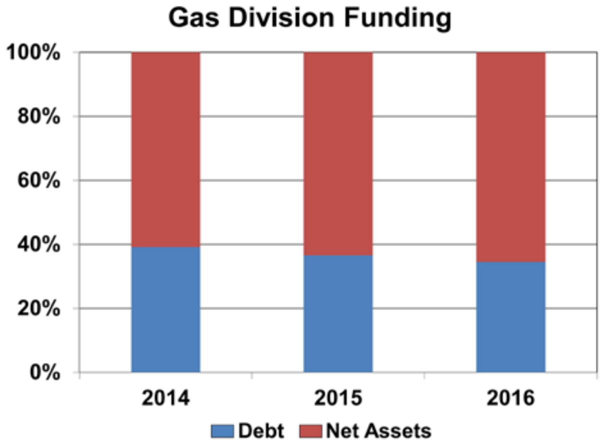
## Debt Administration

As of June 30, 2016 the Gas Division had $102.1 million in outstanding gas system bonds. The bonds are secured solely by revenues of the Gas Division. Debt as a percentage of the Division's capital structure represented 34.5 percent in 2016, 36.6 percent in 2015, and 39.2 percent at the end of fiscal year 2014. KUB's Debt Management Policy limits the Division's debt ratio to 60 percent or less.

### Outstanding Debt
### As of June 30

| *(in thousands of dollars)* | **2016** | **2015** | **2014** |
|---|---|---|---|
| Revenue bonds | $ 102,125 | $ 107,545 | $ 112,365 |
| Total outstanding debt | $ 102,125 | $ 107,545 | $ 112,365 |





The Division will pay $61.9 million in principal payments over the next ten years, representing 60.6 percent of the outstanding bonds. KUB's Debt Management Policy requires a minimum of 30 percent of gas debt principal be repaid over the next ten years.

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

As of June 30, 2016, the Division had $102.1 million in outstanding debt (including current portions of revenue bonds), compared to $107.5 million last year, representing a decrease of $5.4 million or 5 percent. The decrease is attributable to the scheduled repayment of bond debt. The Division's weighted average cost of debt as of June 30, 2016 was 3.9 percent.

The Division's outstanding debt is rated by Standard & Poor's and Moody's Investors Service. As of June 30, 2016, the Division's revenue bonds were rated AA by Standard & Poor's and Aa2 by Moody's Investors Service.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

As of June 30, 2015, the Division had $107.5 million in outstanding debt (including current portions of revenue bonds), compared to $112.4 million last year, representing a decrease of $4.9 million or 4.3 percent. The Division's weighted average cost of debt as of June 30, 2015 was 3.86 percent.

In April 2015, the Division issued $11.8 million in gas system revenue refunding bonds to refinance certain outstanding bonds at lower interest rates. The refunding of certain bonds at lower interest rates will provide debt service savings of $1.2 million over the life of the bonds.

The Division's outstanding debt is rated by Standard & Poor's and Moody's Investors Service. As of June 30, 2015, the Division's revenue bonds were rated AA by Standard & Poor's and Aa2 by Moody's Investors Service.

## Impacts on Future Financial Position

KUB expects to add 900 new gas customers during the course of the next fiscal year.

In June 2014, the KUB Board adopted three years of rate increases for all four Divisions to help fund the ongoing Century II infrastructure programs for each system. The first and second of three rate increases were effective October 2014 and October 2015. The remaining natural gas rate increase will be effective October 2016. Each rate increase will result in $1.8 million in additional annual gas system revenue.

KUB sold $12 million in natural gas system revenue bonds in July 2016 for the purpose of funding natural gas system capital improvements. The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.78 percent.

KUB long-term debt includes $12 million of Gas Division 2010 Build America Bonds (BABs). The BABs were sold on a taxable basis with the United States Treasury providing a rebate to KUB for a percentage of the interest cost. The interest rebates were subject to federal sequestration during the fiscal year and were reduced by 6.8 percent. Any future actions by Congress may also affect the anticipated rebates for future fiscal years.

In April 2016, KUB management presented the fiscal year 2017 budget to the KUB Board of Commissioners that accommodates the projected level of capital investment for the fiscal year. Over the course of the next ten years KUB plans to spend approximately $108 million dollars on Grid Modernization, of which the Division's share is $14.2 million. In July 2016, the four-year deployment of advanced meters began.

GASB Statement No. 82, *Pension Issues – An amendment of GASB Statements No. 67, No. 68 and No. 73* is effective for fiscal years beginning after June 15, 2016. GASB Statement No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans,* and GASB No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions,* are effective for periods beginning after June 15, 2017. KUB has not elected early implementation of these standards and has not completed the process of evaluating the impact of these statements on its financial statements.

No other facts, decisions, or conditions are currently known which would have a significant impact on the Division's financial position or results of operations during fiscal year 2016.

## Financial Contact

The Division's financial statements are designed to present users (citizens, customers, investors, and creditors) with a general overview of the Division's financial position and results of operations for the fiscal years ending June 30, 2016 and 2015. If you have questions about the statements or need additional financial information, contact KUB's Chief Financial Officer at 445 South Gay Street, Knoxville, Tennessee 37902.

# Knoxville Utilities Board Gas Division
## Statements of Net Position
## June 30, 2016 and 2015

| | 2016 | 2015 |
|---|---|---|
| **Assets and Deferred Outflows of Resources** | | |
| Current assets: | | |
| Cash and cash equivalents | $ 11,036,149 | $ 26,262,919 |
| Short-term contingency fund investments | 3,597,830 | 2,950,146 |
| Other current assets | 240,425 | 375,832 |
| Accrued interest receivable | 2,595 | 1,108 |
| Accounts receivable, less allowance of uncollectible accounts of $46,630 in 2016 and $34,907 in 2015 | 4,440,145 | 5,930,278 |
| Inventories | 630,535 | 465,596 |
| Gas storage | 8,010,091 | 9,447,403 |
| Prepaid expenses | 66,013 | 55,502 |
| Total current assets | 28,023,783 | 45,488,784 |
| Restricted assets: | | |
| Gas bond fund | 3,145,854 | 3,111,502 |
| Other funds | 3,641 | 7,901 |
| Total restricted assets | 3,149,495 | 3,119,403 |
| Gas plant in service | 364,632,055 | 324,150,132 |
| Less accumulated depreciation | (121,932,008) | (113,395,656) |
| | 242,700,047 | 210,754,476 |
| Retirement in progress | 54,370 | 89,960 |
| Construction in progress | 20,777,003 | 37,187,771 |
| Net plant in service | 263,531,420 | 248,032,207 |
| Other assets: | | |
| Net pension asset | - | 1,083,893 |
| Long-term contingency fund investments | 12,754,872 | 12,186,218 |
| Under recovered purchased gas costs | 2,178,653 | - |
| Other | 1,569,632 | 1,641,273 |
| Total other assets | 16,503,157 | 14,911,384 |
| Total assets | 311,207,855 | 311,551,778 |
| Deferred outflows of resources: | | |
| Pension outflow | 1,760,739 | 568,296 |
| Unamortized bond refunding costs | 1,243,933 | 1,357,050 |
| Total deferred outflows of resources | 3,004,672 | 1,925,346 |
| Total assets and deferred outflows of resources | $ 314,212,527 | $ 313,477,124 |

The accompanying notes are an integral part of these financial statements.

# Knoxville Utilities Board Gas Division
## Statements of Net Position
## June 30, 2016 and 2015

| | 2016 | 2015 |
|---|---|---|
| **Liabilities, Deferred Inflows, and Net Position** | | |
| Current liabilities: | | |
| Current portion of revenue bonds | $ 5,450,000 | $ 5,420,000 |
| Sales tax collections payable | 72,463 | 74,674 |
| Accounts payable | 4,930,035 | 5,321,481 |
| Accrued expenses | 1,004,924 | 1,005,599 |
| Customer deposits plus accrued interest | 3,677,724 | 3,576,615 |
| Accrued interest on revenue bonds | 1,329,087 | 1,318,069 |
| Total current liabilities | 16,464,233 | 16,716,438 |
| Other liabilities: | | |
| Accrued compensated absences | 1,531,331 | 1,507,803 |
| Customer advances for construction | 984,710 | 718,096 |
| Net pension liability | 856,827 | - |
| Over recovered purchased gas costs | - | 1,063,761 |
| Other | 37,751 | 63,182 |
| Total other liabilities | 3,410,619 | 3,352,842 |
| Long-term debt: | | |
| Gas revenue bonds | 96,675,000 | 102,125,000 |
| Unamortized premiums/discounts | 3,488,853 | 3,794,404 |
| Total long-term debt | 100,163,853 | 105,919,404 |
| Total liabilities | 120,038,705 | 125,988,684 |
| Deferred inflows of resources: | | |
| Pension inflow | 257,085 | 1,148,096 |
| Total deferred inflows of resources | 257,085 | 1,148,096 |
| Total liabilities and deferred inflows of resources | 120,295,790 | 127,136,780 |
| Net position | | |
| Net investment in capital assets | 159,696,458 | 138,973,111 |
| Restricted for: | | |
| Debt service | 1,816,767 | 1,793,433 |
| Other | 3,641 | 7,901 |
| Unrestricted | 32,399,871 | 45,565,899 |
| Total net position | 193,916,737 | 186,340,344 |
| Total liabilities, deferred inflows, and net position | $ 314,212,527 | $ 313,477,124 |

The accompanying notes are an integral part of these financial statements.

# Knoxville Utilities Board Gas Division

## Statements of Revenues, Expenses and Changes in Net Position

## Years Ended June 30, 2016 and 2015

| | 2016 | 2015 |
|---|---|---|
| Operating revenues | $ 88,441,144 | $ 114,168,784 |
| Operating expenses | | |
| Purchased gas | 41,212,470 | 63,735,433 |
| Distribution | 8,304,516 | 7,922,463 |
| Customer service | 2,676,224 | 2,687,961 |
| Administrative and general | 5,983,853 | 5,842,471 |
| Provision for depreciation | 11,481,432 | 10,894,826 |
| Taxes and tax equivalents | 7,390,744 | 6,657,038 |
| Total operating expenses | 77,049,239 | 97,740,192 |
| Operating income | 11,391,905 | 16,428,592 |
| Non-operating revenues (expenses) | | |
| Contributions in aid of construction | 7,078,153 | 450,281 |
| Interest and dividend income | 183,418 | 158,779 |
| Interest expense | (4,104,192) | (4,642,526) |
| Amortization of debt costs | 70,748 | 106,159 |
| Write-down of plant for costs recovered through contributions | (7,078,153) | (450,281) |
| Other | 34,514 | 104,921 |
| Total non-operating revenues (expenses) | (3,815,512) | (4,272,667) |
| Change in net position before capital contributions | 7,576,393 | 12,155,925 |
| Capital contributions | - | 4,353 |
| Change in net position | 7,576,393 | 12,160,278 |
| Net position, beginning of year, as previously reported | 186,340,344 | 174,317,582 |
| Change in method of accounting for pension | - | (137,516) |
| Net position, beginning of year, as restated | 186,340,344 | 174,180,066 |
| Net position, end of year | $ 193,916,737 | $ 186,340,344 |

The accompanying notes are an integral part of these financial statements.

# Knoxville Utilities Board Gas Division
## Statements of Cash Flows
## June 30, 2016 and 2015

| | 2016 | 2015 |
|---|---|---|
| Cash flows from operating activities: | | |
| Cash receipts from customers | $ 89,485,188 | $ 115,921,501 |
| Cash (payments to) receipts from other operations | 999,976 | 1,047,805 |
| Cash payments to suppliers of goods or services | (52,432,985) | (73,855,383) |
| Cash payments to employees for services | (8,871,606) | (8,047,999) |
| Payment in lieu of taxes | (6,737,649) | (6,081,256) |
| Net cash provided by operating activities | 22,442,924 | 28,984,668 |
| Cash flows from capital and related financing activities: | | |
| Principal paid on revenue bonds and notes payable | (5,420,000) | (5,150,000) |
| (Increase) decrease in unused bond proceeds | - | 1,055,410 |
| Interest paid on revenue bonds and notes payable | (4,093,173) | (4,435,230) |
| Acquisition and construction of gas plant | (34,428,703) | (38,191,918) |
| Changes in gas bond fund, restricted | (34,352) | 69,391 |
| Customer advances for construction | 267,894 | 178,113 |
| Proceeds received on disposal of plant | 1,028 | - |
| Cash received from developers and individuals for capital purposes | 7,078,153 | 450,281 |
| Net cash used in capital and related financing activities | (36,629,153) | (46,023,953) |
| Cash flows from investing activities: | | |
| Changes in deposit and investment accounts: | | |
| Purchase of investment securities | (4,099,811) | (3,282,494) |
| Maturities of investment securities | 2,949,225 | 2,277,167 |
| Interest received | 181,931 | 159,691 |
| Other property and investments | (71,886) | 133,629 |
| Net cash provided by (used in) investing activities | (1,040,541) | (712,007) |
| Net increase (decrease) in cash and cash equivalents | (15,226,770) | (17,751,292) |
| Cash and cash equivalents, beginning of year | 26,262,919 | 44,014,211 |
| Cash and cash equivalents, end of year | $ 11,036,149 | $ 26,262,919 |
| **Reconciliation of operating income to net cash provided by operating activities** | | |
| Operating income | $ 11,391,905 | $ 16,428,592 |
| Adjustments to reconcile operating income to net cash provided by operating activities: | | |
| Depreciation expense | 11,709,804 | 11,083,056 |
| Changes in operating assets and liabilities: | | |
| Accounts receivable | 1,490,134 | 2,315,045 |
| Inventories | (164,939) | (90,138) |
| Prepaid expenses | 1,426,802 | 844,387 |
| Other assets | 89,621 | (145,258) |
| Sales tax collections payable | (2,211) | (8,986) |
| Accounts payable and accrued expenses | (331,456) | (1,396,187) |
| Underrecovered gas costs | (3,242,414) | (214,383) |
| Customer deposits plus accrued interest | 101,109 | 120,482 |
| Other liabilities | (25,431) | 48,058 |
| Net cash provided by operating activities | $ 22,442,924 | $ 28,984,668 |
| Noncash capital activities: | | |
| Acquisition of plant assets through developer contributions | $ - | $ 4,353 |

The accompanying notes are an integral part of these financial statements.

## 1. Description of Business

Knoxville Utilities Board (KUB), comprised of Electric Division, Gas Division, Water Division, and Wastewater Division (Divisions), is reported as a component unit enterprise fund in the financial statements of the City of Knoxville. KUB's responsibility is to oversee the purchase, production, distribution, and processing of electricity, natural gas, water, and wastewater services. A seven-member Board of Commissioners (Board) governs KUB. The Board has all powers to construct, acquire, expand, and operate the Divisions. It has full control and complete jurisdiction over the management and operation of the Divisions including setting rates. The Gas Division (Division) provides services to certain customers in Knox County and in two surrounding counties in East Tennessee. The Division's accounts are maintained in conformity with the Uniform System of Accounts of the Federal Energy Regulatory Commission (FERC) and the Governmental Accounting Standards Board (GASB), as applicable. The financial statements present only the Gas Division and do not purport to, and do not, present fairly the consolidated financial position of Knoxville Utilities Board at June 30, 2016 and 2015, and the changes in its financial position for the years then ended in conformity with accounting principles generally accepted in the United States of America.

## 2. Significant Accounting Policies

### Basis of Accounting

In conformity with Generally Accepted Accounting Principles (GAAP), KUB follows the provisions of GASB Statement No. 34 (Statement No. 34), *Financial Statements – and Management's Discussion and Analysis – for State and Local Governments* as amended by GASB Statement No. 63 (Statement No. 63), *Financial Reporting of Deferred Outflows of Resources, Deferred Inflows of Resources and Net Position.* Statement No. 34 established standards for external financial reporting for all state and local governmental entities. Under Statement No. 63, financial statements include deferred outflows of resources and deferred inflows of resources, in addition to assets and liabilities, and will report *net position* instead of net assets. In addition, KUB follows GASB Statement No. 62 (Statement No. 62), *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements* as it relates to certain items for regulatory accounting. Regulatory accounting allows a regulated utility to defer a cost (a regulatory asset) or recognize an obligation (a regulatory liability) if it is probable that through the rate making process, there will be a corresponding increase or decrease in future revenues. Accordingly, KUB has recognized certain regulatory assets and regulatory liabilities in the accompanying Statements of Net Position.

The financial statements are prepared on the accrual basis of accounting, whereby revenues are recognized when earned and expenses are recognized when incurred. The accounting and financial reporting treatment applied to the Division is determined by measurement focus. The transactions of the Division are accounted for on a flow of economic resources measurement focus. With this measurement focus, all assets and all liabilities associated with the operations are included on the Statement of Net Position. Net position (i.e., total assets and deferred outflows of resources net of total liabilities and deferred inflows of resources) is segregated into net investment in capital assets, restricted for capital activity and debt service, and unrestricted components.

### Recently Adopted New Accounting Pronouncements

In February 2015, the Governmental Accounting Standards Board (GASB) issued Statement No. 72 (Statement No. 72), *Fair Value Measurement and Application.* Statement No. 72 is intended to provide guidance for determining a fair value measurement for financial reporting purposes and for applying fair value to certain investments and disclosures related to all fair value measurements.

In June 2015, the GASB issued GASB Statement No. 73 (Statement No. 73), *Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provision of GASB Statements 67 and 68.* The requirements of this Statement will improve financial reporting by establishing a single framework for the presentation of information about pensions and enhance comparability.

In June 2015, the GASB issued GASB Statement No. 76 (Statement No. 76), *The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments*. The objective of this Statement is to simplify the hierarchy of generally accepted accounting principles (GAAP) used to prepare financial statements of state and local governmental entities. This Statement supersedes Statement No. 55, *The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments,* and amends Statement No. 62, *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements*, paragraphs 64, 74, and 82.

In December 2015, the GASB issued GASB Statement No. 79 (Statement No. 79), *Certain External Investment Pools and Pool Participants.* This statement establishes criteria for an external investment pool to qualify for making the election to measure all of its investments at amortized cost for financial reporting purposes.

Statements No. 72, 73, 76, and 79 are effective for fiscal years beginning after June 15, 2015.

### Gas Plant

Gas plant and other property are stated on the basis of original cost. The cost of current repairs and minor replacements is charged to operating expense. The cost of renewals and improvements is capitalized. The original cost of utility plant assets retired or otherwise disposed of and the cost of removal less salvage value is charged to accumulated depreciation. When other property is retired, the related asset and accumulated depreciation are removed from the accounts, and the gain or loss is included in the results of operations.

The provision for depreciation of gas plant in service is based on the estimated useful lives of the assets, which range from three to thirty-three years, and is computed using the straight-line method. Pursuant to FERC, the caption "Provision for depreciation" in the Statements of Revenues, Expenses and Changes in Net Position does not include depreciation for transportation equipment of $228,372 in fiscal year 2016 and $188,229 in fiscal year 2015. Under regulatory accounting, interest costs are expensed as incurred with construction of plant assets.

### Operating Revenue

Operating revenue consists primarily of charges for services provided by the principal operations of the KUB Gas Division. Operating revenue is recorded when the service is rendered, on a cycle basis, and includes an estimate of unbilled revenue. Revenues are reported net of bad debt expense of $87,712 in fiscal year 2016 and $134,460 in fiscal year 2015.

### Non-operating Revenue

Non-operating revenue consists of revenues that are related to financing and investing types of activities and result from non-exchange transactions or ancillary activities.

### Expense

When an expense is incurred for purposes for which there are both restricted and unrestricted net assets available, it is KUB’s policy to apply those expenses to restricted net assets to the extent such are available and then to unrestricted net assets.

## Net Position

GASB Statement No. 63 requires the classification of net position into three components – net investment in capital assets; net position-restricted; and net position-unrestricted.

These classifications are defined as follows:

- Net investment in capital assets – This component of net position consists of capital assets, including restricted capital assets, net of accumulated depreciation and reduced by the outstanding balances of any bonds, mortgages, notes, or other borrowings that are attributable to the acquisition, construction, or improvement of those assets. Deferred outflows of resources and deferred inflows of resources that are attributable to the acquisition, construction, or improvement of those assets or related debt also should be included in this component of net position. If there are significant unspent related debt proceeds at year end, the portion of the debt attributable to the unspent proceeds are not included in the calculation of net investment in capital assets. Rather, that portion of the debt is included in the same net position component as the unspent proceeds.

- Net position-restricted – This component of net position consists of restricted assets reduced by liabilities and deferred inflows of resources related to those assets. Generally, a liability relates to restricted assets if the asset results from a resource flow that also results in the recognition of a liability or if the liability will be liquidated with the restricted assets reported.

- Net position-unrestricted – This component of net position consists of assets, deferred outflows of resources, liabilities, and deferred inflows of resources that are not included in the determination of net investment in capital assets or the restricted component of net position.

## Contributions in Aid of Construction and Capital Contributions

Contributions in aid of construction are cash collections from customers or others for a particular purpose, generally the construction of new facilities to serve new customers in excess of the investment KUB is willing to make for a particular incremental revenue source. KUB reduces the plant account balances to which contributions relate by the actual amount of the contribution and recognizes the contributions as non-operating revenue in accordance with Statement No. 62.

Capital contributions represent contributions of utility plant infrastructure constructed by developers and others in industrial parks and other developments, and transferred to KUB upon completion of construction and the initiation of utility service. In accordance with GASB Statement No. 33, *Accounting and Financial Reporting for Nonexchange Transactions*, such contributions are recognized as revenues and capital assets upon receipt.

## Inventories

Inventories, consisting of plant materials and operating supplies, are valued at the lower of average cost or replacement value.

## Change in Method of Accounting for Pension

In June 2012, the Governmental Accounting Standards Board (GASB) issued Statement No. 68, *Accounting and Financial Reporting for Pensions – An Amendment of GASB Statement No. 27*, which revises existing standards of financial reporting for pensions. In addition, during November 2013, GASB issued Statement No. 71, *Pension Transition for Contributions Made Subsequent to the Measurement Date*, which requires deferred outflow of resources to be recognized for any contributions made subsequent to the measurement date of the beginning net pension liability. These standards were adopted by KUB in 2015 and resulted in a restatement of 2015 beginning net position of $763,975 (Division’s share $137,516).

### Pension Plan

KUB's employees are participants in the Knoxville Utilities Board Pension Plan as authorized by the Charter of the City of Knoxville §1107(J) (Note 10). KUB's policy is to fully fund the annual actuarially determined contributions. As required by GASB Statement No. 68, KUB measures net pension liability as total pension liability less the amount of the Plan's fiduciary net position. The amounts reported as of June 30, 2016 and 2015 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2016 and 2015 are based on a December 31, 2015 and 2014 measurement date, respectively.

### Investments

Investments are carried at fair value as determined by quoted market prices at the reporting date.

### Self-Insurance

KUB has established self-insurance programs covering portions of workers' compensation, employee health, environmental liability, general liability, property and casualty liability, and automobile liability claims. A liability is accrued for claims as they are incurred. When applicable, claims in excess of the self-insured risk are covered by KUB's insurance carrier. Additionally, KUB provides certain lifetime health benefits to eligible retired employees under a self-insurance plan administered by a third party.

### Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. These estimates are based on historical experience and various other assumptions that KUB believes are reasonable under the circumstances. However, future events are subject to change and the best estimates and judgments routinely require adjustment. Estimates are used for, but not limited to, inventory valuation, allowance for uncollectible accounts, depreciable lives of plant assets, unbilled revenue volumes, pension trust valuations, OPEB trust valuations, insurance liability reserves, and potential losses from contingencies and litigation. Actual results could differ from those estimates.

### Restricted and Designated Assets

Certain assets are restricted by bond resolutions for the construction of utility plant and debt repayment. Certain additional assets are designated by management for contingency purposes and economic development.

### Cash Equivalents

For purposes of the Statements of Cash Flows, KUB considers all unrestricted and undesignated highly liquid investments with an original maturity of three months or less when purchased to be cash equivalents.

### Deferred Outflows and Inflows of Resources

Deferred outflows of resources are items previously reported as assets related to the acquisition of assets or related debt which are amortized over the life of the asset or debt. Deferred inflows of resources are items previously reported as liabilities related to the acquisition of assets or related debt which are amortized over the life of the asset or debt. KUB records costs associated with the gain or loss on refunding of debt as either a deferred outflow or inflow based on the parameters of Statement No. 65. Deferred outflows of resources also include employer pension contributions made subsequent to the measurement date of the net pension liability and before the end of the employer's reporting period in accordance with Statement No. 71. Deferred inflows and deferred outflows also include the net difference between projected and actual earnings on pension plan

investments and differences between expected and actual experience in accordance with Statement No. 68.

### Debt Premium/Discount

KUB records unamortized premium and discount on debt as a separate line item in the Long Term Debt section of the Financial Statements. Amortization of these amounts is recorded over the life of the applicable debt as amortization expense.

### Debt Issuance Costs

In accordance with regulatory accounting, KUB records debt issuance costs as an Other Asset. Amortization of these amounts is recorded over the life of the applicable debt as amortization expense.

### Deferred Gain/Loss on Refunding of Debt

KUB records costs associated with the gain or loss on refunding of debt as either a deferred outflow or inflow based on the parameters of Statement No. 65. In accordance with FERC presentation, amortization of these amounts is recorded over the life of the applicable debt as amortization expense.

### Compensated Absences

KUB accrues a liability for earned but unpaid paid-time off (PTO) days.

### Subsequent Events

KUB has evaluated events and transactions through October 27, 2016, the date these financial statements were issued, for items that should potentially be recognized or disclosed. KUB sold $12 million in natural gas system revenue bonds in July 2016 for the purpose of funding natural gas system capital improvements in fiscal year 2017. The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.78 percent.

### Purchased Gas Adjustment

In November 1990, the Board implemented a deferred Purchased Gas (Cost) Adjustment (PGA) mechanism, which allows KUB to flow changes in purchased gas costs through to its customers. These changes in gas costs are reflected as adjustments to the base gas rates established by the Board. The rate-setting authority vested in the Board by the City Charter meets the “self-regulated” provisions of GASB Statement No. 62 (Statement No. 62), *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements*.

The PGA is intended to assure that KUB recovers the total cost of natural gas purchased, transported and/or reserved for delivery to its sales and transportation customers on an equitable basis. The PGA is also intended to assure that no excess or deficient cost recovery from KUB’s customers occurs.

Under the PGA mechanism, KUB tracks the actual over/(under) recovered amount in the Over/(Under) Recovered Purchased Gas Costs accounts. These accounts are rolled into the PGA rate adjustment on June 30 of each year thereby assuring that any over/(under) recovered amounts are passed on to KUB’s gas system customers. The amount of over/(under) recovered cost was ($2,178,653) at June 30, 2016 and $1,063,761 at June 30, 2015.

### Recently Issued Accounting Pronouncements

In June 2015, the GASB issued two related Statements that affect accounting and financial reporting by state and local governments for postemployment benefits other than pensions (OPEB). GASB Statement No. 74 (Statement No. 74), *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans,* addresses reporting by OPEB plans that administer benefits on behalf of governments. GASB Statement No. 75 (Statement No. 75), *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions,* addresses reporting by governments that provide OPEB to their employees. Statement No. 74 is effective for fiscal years beginning after June 15, 2016, and Statement No. 75 is effective for fiscal years beginning after June 15, 2017.

In March 2016, the GASB issued GASB Statement No. 82 (Statement No. 82), *Pension Issues – An amendment of GASB Statements No. 67, No. 68 and No. 73*. The objective of this Statement is to address certain issues that have been raised with respect to the presentation of payroll-related measures in required supplementary information, the selection of assumptions and treatment of deviations from the guidance in an Actuarial Standard of Practice for financial reporting purposes and the classification of payments made by employers to satisfy employee contribution obligations. Statement No. 82 is effective for fiscal years beginning after June 15, 2016.

KUB has not elected early implementation of these standards and has not completed the process of evaluating the impact of these statements on its financial statements.

## 3. Deposits and Investments

KUB follows the provisions of Statement No. 40 of the Governmental Accounting Standards Board, *Deposit and Investment Risk Disclosures an amendment of GASB Statement No. 3*. This Statement establishes and modifies disclosure requirements for state and local governments related to deposit and investment risks. KUB classifies its fair value measurements within the fair value hierarchy established by Statement No. 72 of the Governmental Accounting Standards Board, *Fair Value Measurement and Application*.

KUB’s investment policy provides the framework for the administration and investment of cash deposits. The investment policy follows Tennessee State law and defines the parameters under which KUB funds should be invested. State law authorizes KUB to invest in obligations of the United States Treasury, its agencies and instrumentalities; certificates of deposit; repurchase agreements; money market funds; and the State Treasurer's Investment Pool.

*Interest Rate Risk.* KUB’s primary investment objectives are to place investments in a manner to ensure the preservation of capital, remain sufficiently liquid to meet all operating requirements, and maximize yield of return. KUB minimizes its exposure to interest rate risk by adhering to Tennessee State law requirements for the investment of public funds. This includes limiting investments to those types described above and limiting maturity horizons. The maximum maturity is four years from the date of investment. KUB also limits its exposure by holding investments to maturity unless cash flow requirements dictate otherwise.

*Credit Risk.* KUB’s investment policy, as required by state law, is to apply the prudent-person rule: Investments are made with judgment and care, under circumstances then prevailing, which persons of prudence, discretion, and intelligence exercise in the management of their own affairs, not for speculation, but for investment, considering the probable income to be derived, as well as the probable safety of their capital. KUB’s Agency Bond investments are rated Aaa by Moody’s Investors Service.

*Custodial Credit Risk*. KUB’s investment policy limits exposure to custodial credit risk by restricting investments to a standard set forth by State law. All deposits in excess of federal depository insurance limits are collateralized with government securities held in KUB's name by a third-party custodian bank(s) acting as KUB's agent(s), or through the State of Tennessee's collateral pool. Financial institutions that participate in the collateral pool are subject to special assessment; therefore, the deposits are considered insured. A portion of KUB’s investments are generally held in the State of Tennessee Local Government Investment Pool (LGIP). The LGIP is a part of the

State Pooled Investment Fund and is sponsored by the State of Tennessee Treasury Department. Tennessee Code Annotated ¶9-4-701 *et seq.* authorizes local governments to invest in the LGIP. None of KUB's investments are exposed to custodial credit risk.

Classification of deposits and investments per Statement of Net Position:

| | | **2016** | | **2015** |
|---|---|---|---|---|
| Current assets | | | | |
| Cash and cash equivalents | $ | 11,036,149 | $ | 26,262,919 |
| Short-term contingency fund investments | | 3,597,830 | | 2,950,146 |
| Other assets | | | | |
| Long-term contingency fund investments | | 12,712,792 | | 12,150,457 |
| Restricted assets | | | | |
| Gas bond fund | | 3,145,854 | | 3,111,502 |
| Other funds | | 3,641 | | 7,901 |
| | $ | 30,496,266 | $ | 44,482,925 |

The above amounts do not include accrued interest of $42,080 in fiscal year 2016 and $35,761 in fiscal year 2015. Interest income is recorded on an accrual basis.

Investments and maturities of KUB's deposits and investments as held by financial institutions as of June 30, 2016:

| | **Deposit and Investment Maturities (in Years)** | | | | | |
|---|---|---|---|---|---|---|
| | | **Fair Value** | | **Less Than 1** | | **1-5** |
| Supersweep NOW and Other Deposits | $ | 17,314,876 | $ | 17,314,876 | $ | - |
| State Treasurer's Investment Pool | | 1,118,710 | | 1,118,710 | | - |
| Agency Bonds | | 15,863,747 | | 3,597,830 | | 12,265,917 |
| Certificates of Deposits | | 2,473,919 | | 2,027,044 | | 446,875 |
| | $ | 36,771,252 | $ | 24,058,460 | $ | 12,712,792 |

KUB categorizes its fair value measurements within the fair value hierarchy established by Statement No. 72 of the Governmental Accounting Standards Board, *Fair Value Measurement and Application*. The hierarchy is based on the valuation inputs used to measure the fair value of an asset with a maturity at purchase greater than one year. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs.

KUB has the following recurring fair value measurements as of June 30, 2016:

- U.S. Agency bonds of $12,265,917, which have a maturity at purchase of greater than one year, are valued using quoted market prices (Level 1 inputs)
- Certificates of deposits of $446,875, which have a maturity at purchase of greater than one year, are valued at interest rates and yield curves observable at commonly quoted intervals (Level 2 inputs)

KUB measures investments with a maturity at purchase of one year or less at amortized cost, which is considered a fair value equivalent due to their nature. Investments in the State Treasurer's Investment Pool are measured at net asset value (NAV) per share.

## 4. Accounts Receivable

Accounts receivable consists of the following:

| | 2016 | 2015 |
|---|---|---|
| Wholesale and retail customers | | |
| Billed services | $ 3,122,483 | $ 4,610,243 |
| Unbilled services | 1,113,275 | 1,121,876 |
| Other | 251,017 | 233,066 |
| Allowance for uncollectible accounts | (46,630) | (34,907) |
| | $ 4,440,145 | $ 5,930,278 |

## 5. Accounts Payable and Accruals

Accounts payable and accruals were composed of the following:

| | 2016 | 2015 |
|---|---|---|
| Trade accounts | $ 4,930,035 | $ 5,321,481 |
| Salaries and wages | 334,914 | 219,134 |
| Self-insurance liabilities | 300,161 | 306,714 |
| Other current liabilities | 369,849 | 479,751 |
| | $ 5,934,959 | $ 6,327,080 |

## 6. Long-Term Obligations

Long-term debt consists of the following:

| | Balance June 30, 2015 | Additions | Payments | Defeased | Balance June 30, 2016 | Amounts Due Within One Year |
|---|---|---|---|---|---|---|
| L-2005 - 3.0 - 4.75% | $ 10,715,000 | $ - | $ 695,000 | $ - | $ 10,020,000 | $ 725,000 |
| N-2007 - 4.0 - 5.0% | 550,000 | - | - | - | 550,000 | 550,000 |
| O-2010 - 2.0 - 3.0% | 3,475,000 | - | 3,475,000 | - | - | - |
| P-2010 - 3.3 - 6.2% | 12,000,000 | - | - | - | 12,000,000 | 540,000 |
| Q-2012 - 2.0 - 4.0% | 23,345,000 | - | 700,000 | - | 22,645,000 | 2,065,000 |
| R-2012 - 2.0 - 4.0% | 9,600,000 | - | 200,000 | - | 9,400,000 | 400,000 |
| S-2013 - 2.0 - 4.0% | 11,480,000 | - | 50,000 | - | 11,430,000 | 570,000 |
| T-2013 - 2.0 - 4.6% | 24,600,000 | - | 200,000 | - | 24,400,000 | 500,000 |
| U-2015 - 2.0 - 3.5% | 11,780,000 | - | 100,000 | - | 11,680,000 | 100,000 |
| Total bonds | $ 107,545,000 | $ - | $ 5,420,000 | $ - | $ 102,125,000 | $ 5,450,000 |
| Unamortized Premium | 3,794,404 | - | 305,551 | - | 3,488,853 | - |
| Total long term debt | $ 111,339,404 | $ - | $ 5,725,551 | $ - | $ 105,613,853 | $ 5,450,000 |

| | Balance June 30, 2014 | Additions | Payments | Defeased | Balance June 30, 2015 | Amounts Due Within One Year |
|---|---|---|---|---|---|---|
| L-2005 - 3.0 - 4.75% | $ 11,380,000 | $ - | $ 665,000 | $ - | $ 10,715,000 | $ 695,000 |
| N-2007 - 4.0 - 5.0% | 12,000,000 | - | - | 11,450,000 | 550,000 | - |
| O-2010 - 2.0 - 3.0% | 6,825,000 | - | 3,350,000 | - | 3,475,000 | 3,475,000 |
| P-2010 - 3.3 - 6.2% | 12,000,000 | - | - | - | 12,000,000 | - |
| Q-2012 - 2.0 - 4.0% | 24,030,000 | - | 685,000 | - | 23,345,000 | 700,000 |
| R-2012 - 2.0 - 4.0% | 9,800,000 | - | 200,000 | - | 9,600,000 | 200,000 |
| S-2013 - 2.0 - 4.0% | 11,530,000 | - | 50,000 | - | 11,480,000 | 50,000 |
| T-2013 - 2.0 - 4.6% | 24,800,000 | - | 200,000 | - | 24,600,000 | 200,000 |
| U-2015 - 2.0 - 3.5% | - | 11,780,000 | - | - | 11,780,000 | 100,000 |
| Total bonds | $ 112,365,000 | $ 11,780,000 | $ 5,150,000 | $ 11,450,000 | $ 107,545,000 | $ 5,420,000 |
| Unamortized Premium | 3,434,514 | 701,501 | 296,934 | 44,677 | 3,794,404 | - |
| Total long term debt | $ 115,799,514 | $ 12,481,501 | $ 5,446,934 | $ 11,494,677 | $ 111,339,404 | $ 5,420,000 |

Debt service over remaining term of the debt is as follows:

| **Fiscal Year** | **Principal** | **Total Interest** | **Grand Total** |
|---|---|---|---|
| 2017 | $ 5,450,000 | $ 3,987,262 | $ 9,437,262 |
| 2018 | 5,590,000 | 3,793,753 | 9,383,753 |
| 2019 | 5,780,000 | 3,599,143 | 9,379,143 |
| 2020 | 5,985,000 | 3,390,981 | 9,375,981 |
| 2021 | 6,240,000 | 3,137,531 | 9,377,531 |
| 2022 - 2026 | 32,840,000 | 11,816,353 | 44,656,353 |
| 2027 - 2031 | 29,565,000 | 5,769,511 | 35,334,511 |
| 2032 - 2036 | 10,675,000 | 1,074,950 | 11,749,950 |
| Total | $ 102,125,000 | $ 36,569,484 | $ 138,694,484 |

The Division has pledged sufficient revenue, after deduction of all current operating expenses (exclusive of tax equivalents), to meet bond principal and interest payments when due. The requirements for the bonds are being met through monthly deposits to the Gas Bond Fund, as required by the bond covenants. As of June 30, 2016, these bond covenant requirements had been satisfied.

During fiscal year 2006, KUB's Gas Division issued Series L 2005 bonds to retire certain existing debt and fund gas system capital improvements. Concurrent with the issuance of these bonds, KUB transferred funds to an irrevocable trust to pay a portion of the Series J 2001 bonds, as such amounts mature.

During fiscal year 2008, KUB's Gas Division issued Series N 2007 bonds to fund gas system capital improvements.

During fiscal year 2011, KUB's Gas Division issued Series P 2010 bonds to fund gas system capital improvements. These bonds were issued as federally taxable Build America Bonds with a 35 percent interest payment rebate to be received from the United States Government for each interest payment. Effective October 1, 2015 these bonds became subject to a 6.8 percent reduction in rebate payment amounts due to the United States Government sequestration. The sequestration is effective until intervening Congressional action, at which time the sequestration rate is subject to change.

During fiscal year 2012, KUB's Gas Division issued Series Q 2012 bonds to retire Series K 2004 bonds.

During fiscal year 2013, KUB's Gas Division issued Series R 2012 bonds to fund gas system capital improvements. KUB's Gas Division also issued Series S 2013 bonds to retire Series M 2006 outstanding bonds.

During fiscal year 2014, KUB's Gas Division issued Series T 2013 to fund gas system capital improvements.

During fiscal year 2015, KUB's Gas Division issued Series U 2015 bonds to retire a portion of Series N 2007 outstanding bonds.

In prior years, certain revenue bonds were defeased by placing the proceeds of new bonds in an irrevocable trust to provide for all future debt service payments on the old bonds. Accordingly, the liability for the defeased bonds, $11.5 million at June 30, 2016, and the trust account assets are not included in the financial statements.

Other liabilities consist of the following:

| | **Balance June 30, 2015** | **Increase** | **Decrease** | **Balance June 30, 2016** |
|---|---|---|---|---|
| Accrued compensated absences | $ 1,507,803 | $ 2,799,906 | $ (2,776,378) | $ 1,531,331 |
| Customer advances for construction | 718,096 | 655,313 | (388,699) | 984,710 |
| Other | 63,182 | 53,012 | (78,443) | 37,751 |
| | $ 2,289,081 | $ 3,508,231 | $ (3,243,520) | $ 2,553,792 |

## 7. Lease Commitments

KUB has non-cancelable operating lease commitments for office equipment, property, and vehicles, summarized for the following fiscal years:

| | |
|---|---|
| 2017 | $ 52,460 |
| 2018 | 49,913 |
| 2019 | 29,271 |
| 2020 | 1,392 |
| Total operating minimum lease payments | $ 133,036 |

## 8. Capital Assets

Capital asset activity was as follows:

| | **Balance June 30, 2015** | **Increase** | **Decrease** | **Balance June 30, 2016** |
|---|---|---|---|---|
| **Production Plant** | $ 14,640 | $ - | $ - | $ 14,640 |
| **Distribution Plant** | | | | |
| Mains | 215,234,641 | 33,590,164 | (922,731) | 247,902,074 |
| Services and Meters/Regulators | 82,397,049 | 6,978,966 | (1,893,978) | 87,482,037 |
| Other Accounts | 1,330,905 | 103,742 | (6,000) | 1,428,647 |
| **Total Distribution Plant** | $ 298,962,595 | $ 40,672,872 | $ (2,822,709) | $ 336,812,758 |
| **Total General Plant** | 25,172,897 | 2,899,368 | (267,608) | 27,804,657 |
| **Total Plant Assets** | $ 324,150,132 | $ 43,572,240 | $ (3,090,317) | $ 364,632,055 |
| Less Accumulated Depreciation | (113,395,656) | (11,798,907) | 3,262,555 | (121,932,008) |
| **Net Plant Assets** | $ 210,754,476 | $ 31,773,333 | $ 172,238 | $ 242,700,047 |
| Work In Progress | 37,277,731 | 29,759,691 | (46,206,049) | 20,831,373 |
| **Total Net Plant** | $ 248,032,207 | $ 61,533,024 | $ (46,033,811) | $ 263,531,420 |

| | Balance June 30, 2014 | Increase | Decrease | Balance June 30, 2015 |
|---|---|---|---|---|
| **Production Plant** | $ 14,640 | $ - | $ - | $ 14,640 |
| **Distribution Plant** | | | | |
| Mains | 203,808,024 | 11,750,358 | (323,741) | 215,234,641 |
| Services and Meters/Regulators | 79,129,896 | 4,351,598 | (1,084,445) | 82,397,049 |
| Other | 1,493,396 | 2,585 | (165,076) | 1,330,905 |
| **Total Distribution Plant** | $ 284,431,316 | $ 16,104,541 | $ (1,573,262) | $ 298,962,595 |
| **Total General Plant** | 23,929,959 | 1,450,671 | (207,733) | 25,172,897 |
| **Total Plant Assets** | $ 308,375,915 | $ 17,555,212 | $ (1,780,995) | $ 324,150,132 |
| Less Accumulated Depreciation | (104,468,506) | (11,064,683) | 2,137,533 | (113,395,656) |
| **Net Plant Assets** | $ 203,907,409 | $ 6,490,529 | $ 356,538 | $ 210,754,476 |
| Work In Progress | 17,464,141 | 36,852,089 | (17,038,499) | 37,277,731 |
| **Total Net Plant** | $ 221,371,550 | $ 43,342,618 | $ (16,681,961) | $ 248,032,207 |

## 9. Risk Management

KUB is exposed to various risks of loss related to active and retiree medical claims; injuries to workers; theft of, damage to, and destruction of assets; environmental damages; and natural disasters. Claims expenditures and liabilities are reported when it is probable that a loss has occurred and the amount of that loss can be reasonably estimated. These losses include an estimate of claims that have been incurred but not reported.

These liabilities are included in accrued expenses in the Statement of Net Position. The liability is KUB's best estimate based on available information. At June 30, 2016 and 2015, the amount of these liabilities was $300,161 and $306,714, respectively, resulting from the following changes:

| | 2016 | 2015 |
|---|---|---|
| Balance, beginning of year | $ 306,714 | $ 298,833 |
| Current year claims and changes in estimates | 2,369,808 | 2,525,126 |
| Claims payments | (2,376,361) | (2,517,245) |
| Balance, end of year | $ 300,161 | $ 306,714 |

## 10. Pension Plan

### Description of Plan

The Knoxville Utilities Board Pension Plan (the Plan) is a governmental plan as defined by the Employee Retirement Income Security Act of 1974 (“ERISA” or the “Act”), is not subject to any of the provisions of the Act, and was revised January 1, 2014 to include all prior approved amendments. The Plan is a single-employer contributory, defined benefit pension plan established by Knoxville Utilities Board (“KUB”) Resolution No. 980 dated February 18, 1999, effective July 1, 1999, as authorized by the Charter of the City of Knoxville §1107(J). The Plan is designed to provide retirement, disability and death benefits to KUB employees. KUB administers the Plan through an Administrative Committee consisting of seven KUB employees that are appointed by KUB’s President and CEO. Any amendments to the Plan involving costs not approved in the operating budget must be adopted by KUB’s Board of Commissioners, upon recommendation by KUB’s President and CEO. All other amendments to the Plan may be approved by KUB’s President and CEO upon 60 days notification to the KUB Audit and Finance Committee. The Plan issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017. For purposes of this disclosure, presentation is on a consolidated basis unless division’s share is specified.

Effective January 1, 2011, KUB closed the Plan such that persons employed or re-employed by KUB on or after January 1, 2011, are not eligible to participate, but that eligible employees hired prior to January 1, 2011, who have not separated from service, shall continue as Participants and to accrue benefits under the Plan.

Participants in the Plan consisted of the following as of December 31:

| | 2015 | 2014 |
|---|---|---|
| Inactive plan members: | | |
| Terminated vested participants | 39 | 40 |
| Retirees and beneficiaries | 628 | 627 |
| Active plan members | 692 | 725 |
| Total | 1,359 | 1,392 |

### Retirement Benefits

The Plan provides three benefit arrangements for KUB participants, retirees, and beneficiaries.

The Plan provides pension benefits through the Career Equity Program (“CEP”) for eligible employees hired on or after January 1, 1999, and for eligible former “City System Plan A” participants who elected CEP coverage as of July 1, 1999. The guaranteed pension benefit payable to a participant who has completed five or more years of service (or reached the normal retirement date, if earlier) upon termination of KUB employment shall be a lump sum equal to the participant’s average compensation times their benefit percentage, as defined in the Plan document, or an annuity may be chosen by the participant.

In addition, the Plan provided retirement benefits through “Plan A” for former City System Plan A participants who elected not to participate in the CEP. Plan A is a closed plan and is not available to KUB employees hired after July 1, 1999. Plan A provides for early retirement benefits with 25 years of service and normal retirement benefits at age 62 or later. Benefits provided to Plan A participants include several different forms of monthly annuity payments.

The Plan also provides retirement benefits through "Plan B" for former "City System Plan B" participants. Plan B is a closed plan providing benefits to participants not covered by Social Security. Benefits provided to Plan B participants include several different forms of monthly annuity payments available to participants.

Effective January 1, 2012, KUB began to provide for additional monthly supplements, which will not be subject to cost of living adjustments, to certain former employees and surviving dependents of former employees who are eligible for and have elected coverage under the KUB retiree medical plan and are eligible for Medicare. This was done to address the loss of drug coverage under the KUB retiree medical plan and to assist such individuals in obtaining prescription drug coverage under Medicare Part D.

### Contributions

Participation in Plan A requires employee contributions of 3 percent of the first $4,800 of annual earnings and 5 percent of annual earnings in excess of $4,800. Plan B participants may not make contributions to the Plan. KUB contributions are determined by the enrolled actuary of the Plan and equal the amount necessary to provide the benefits under the Plan determined by the application of accepted actuarial methods and assumptions. The method of funding shall be consistent with Plan objectives.

### Plan Funding

KUB maintains a Funding Policy for the Plan in accordance with Tennessee State Law. The primary goal of the Policy is to document the method KUB has adopted to provide assurance that future KUB and employee contributions and current Plan assets will be sufficient to fund all benefits expected to be paid to current active, inactive and retired Plan participants and their beneficiaries. Per the Funding Policy, KUB fully funds its annual Actuarially Determined Contribution.

### Investments

The Plan's investments are held by State Street Bank and Trust Company (the "Trustee"). The Plan's policy in regard to the allocation of invested assets is established by the Investment Committee and approved by the KUB Board of Commissioners and may only be amended by the KUB Board of Commissioners. It is the policy of the Investment Committee to pursue an investment strategy that reduces risk through the prudent diversification of the portfolio across a broad selection of distinct asset classes. The following was the Plan's adopted asset allocation policy as of December 31, 2015:

| Asset Class | Target Allocation |
|---|---|
| Domestic equity – large cap | 20% - 50% |
| Domestic equity – mid cap | 0% - 15% |
| Domestic equity – small cap | 0% - 15% |
| Domestic equity - convertible securities | 0% - 10% |
| Non-U.S. equity | 0% - 20% |
| Real estate equity | 0% - 10% |
| Fixed income – aggregate bonds | 5% - 25% |
| Fixed income – long-term bonds | 10% - 25% |
| Cash and deposits | 0% - 5% |

Contributions of $5,669,380 and $6,314,399 for 2014 and 2013, respectively, were made during KUB's fiscal years ending June 30, 2016 and 2015, respectively. Of these amounts, $963,795 and $1,136,592 are attributable to the Gas Division. The contribution was determined as part of the January 1, 2014 valuation using the Individual Entry Age Normal funding method. The objective under this method is to fund each participant's benefits under the Plan as payments which are level as a percentage of salary, starting on the original participation date (employment date) and continuing until the assumed retirement, termination, disability or death. The actuarial valuation for the Plan year ending December 31, 2015 resulted in an actuarially determined contribution of $4,816,913 for the fiscal year ending June 30, 2017, based on the Plan's current funding policy. The Gas Division's portion of this contribution is $818,875.

Subsequent to June 30, 2016, the actuarial valuation for the Plan year ending December 31, 2016 was completed. The actuarial valuation resulted in an actuarially determined contribution of $3,756,283 for the fiscal year ending June 30, 2018, based on the Plan's current funding policy. The Gas Division's portion of this contribution is $638,568. For the Plan year ending December 31, 2016, the Plan's actuarial funded ratio was 103.04 percent.

The actuarial valuations for the Plan years ending December 31, 2015 and 2016, which determine the actuarially determined contribution for future fiscal years ending June 30, 2017 and 2018, have not been audited.

### Implementation of GASB 68

In fiscal year 2015, KUB adopted GASB Statement No. 68, *Accounting and Financial Reporting for Pensions – an amendment of GASB Statement No. 27* ("GASB 68"), which requires measurement of the net pension liability as total pension liability less the amount of the Plan's fiduciary net position. The amounts reported as of June 30 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2016 and 2015 will be based on the December 31, 2015 and 2014 measurement date, respectively. The Division's share of the net pension liability at June 30, 2016 is $856,827 and the net pension asset at June 30, 2015 is $1,083,893.

GASB 68 requires certain disclosures related to the net pension liability of the Plan as disclosed below:

| | | **2015** | | **2014** |
|---|---|---|---|---|
| Total pension liability | $ | 204,502,350 | $ | 202,773,764 |
| Plan fiduciary net position | | 199,462,190 | | (208,795,394) |
| Plan's net pension liability (asset) | $ | 5,040,160 | $ | (6,021,630) |
| | | | | |
| Plan fiduciary net position as a percentage of the total pension liability | | 97.54% | | 102.97% |

Changes in Net Pension Liability are as follows:

| | Total Pension Liability (a) | Increase (Decrease) Plan Fiduciary Net Position (b) | Net Pension Liability (a) - (b) |
|---|---|---|---|
| Balances at December 31, 2014 | $ 202,773,764 | $ 208,795,394 | $ (6,021,630) |
| Changes for the year: | | | |
| Service cost | 4,157,062 | - | 4,157,062 |
| Interest | 14,812,784 | - | 14,812,784 |
| Differences between Expected and Actual Experience | (1,890,334) | - | (1,890,334) |
| Changes of Assumptions | - | - | - |
| Contributions - employer | - | 5,991,887 | (5,991,887) |
| Contributions - rollovers | - | 482,060 | (482,060) |
| Contributions - member | - | 5,486 | (5,486) |
| Net investment income | - | (64,551) | 64,551 |
| Benefit payments | (15,350,926) | (15,350,926) | - |
| Administrative expense | - | (397,160) | 397,160 |
| Net changes | 1,728,586 | (9,333,204) | 11,061,790 |
| Balances at December 31, 2015 | $ 204,502,350 | $ 199,462,190 | $ 5,040,160 |

*Actuarial Assumptions*

The total pension liability was determined by an actuarial valuation as of December 31, 2015 and 2014, using the following actuarial assumptions, applied to all periods included in the measurement:

| | |
|---|---|
| Actuarial cost method: | Individual entry age |
| Asset valuation method: | 5-year smoothed market |
| Amortization method: | Level dollar closed period with 28 years remaining as of January 1, 2013 and 27 years remaining as of January 1, 2014 |
| Discount rate: | 8% at January 1, 2013 and 7.5% at January 1, 2014 |
| Salary increases: | From 2.58% to 7.92% for January 1, 2013 and from 2.80% to 5.15% for January 1, 2014, based on years of service |
| Mortality: | Sex distinct RP-2000 Combined Mortality projected to 2018 using Scale AA for the January 1, 2013 valuation. Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA for the January 1, 2014 valuation |
| Inflation | 2.8 percent |

The actuarial assumptions used in the December 31, 2015 valuation were based on the results of an actuarial experience study for the period January 1, 2009 through December 31, 2013.

The long-term expected rate of return on Plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the Plan's target asset allocation as of December 31, 2015 and 2015 are summarized in the following table. The real rate of return reported for fixed income is for aggregate fixed income. The Plan has both aggregate and long duration fixed income.

| | **Long Term Expected Real Rate of Return** | |
|---|---|---|
| **Asset Class** | **2015** | **2014** |
| Domestic equity | 7.2% | 6.0% |
| Non-U.S. equity | 7.4% | 7.0% |
| Real estate equity | 6.5% | 5.7% |
| Fixed income | 3.7% | 1.8% |
| Cash and deposits | 2.6% | 0.5% |

*Discount rate*

The discount rate used to measure the total pension liability was 7.5 percent as of January 1, 2015 and 2014. The projection of cash flows used to determine the discount rate assumed that participant contributions will be made at the current contribution rate and that KUB contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

*Sensitivity of the net pension liability to changes in the discount rate*

The following presents the net pension liability of the Plan as of December 31, 2015, calculated using the discount rate of 7.5 percent, as well as what the Plan's net pension liability would be if it were calculated using a discount rate that is one percent lower (6.5 percent) or one percent higher (8.5 percent) than the current rate:

| | **1% Decrease (6.5%)** | **Current Discount Rate (7.5%)** | **1% Increase (8.5%)** |
|---|---|---|---|
| Plan's net pension liability | $ 17,128,897 | $ 5,040,160 | $ (5,963,331) |

### Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the year ended June 30, 2015, KUB recognized pension expense of $2,749,905 (Division's share $494,983).

The impact of experience gains or losses and assumption changes on the Total Pension Liability are recognized in expense over the average expected remaining service life of all active and inactive members. As of the measurement date, this recognition period was 3.72 years. However, there were no experience gains or losses, and there were no assumption changes during the measurement year.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment gain of $7,972,887. $1,594,577 of that gain was recognized in the current year and an identical amount will be recognized in each of the next four years, resulting in a deferred inflow of resources of $6,378,310 (Division's share $1,148,096). The table below summarizes the current balances of deferred outflows and deferred inflows of resources along with the net recognition over the next five years. In addition, KUB recorded a deferred outflow of resources of $3,157,199 (Division's share $568,296) at June 30, 2015 for employer contributions made between December 31, 2014 and June 30, 2015.

| | Deferred Outflows of Resources | Deferred Inflows of Resources |
|---|---|---|
| Differences between expected and actual experience | $ - | $ - |
| Changes in assumptions | - | - |
| Net difference between projected and actual earnings on pension plan investments | - | 6,378,310 |
| Contributions subsequent to measurement date | 3,157,199 | - |
| Total | $ 3,157,199 | $ 6,378,310 |

For the year ended June 30, 2016, KUB recognized pension expense of $4,665,035 (Division's share $793,056).

The impact of experience gains or losses and assumption changes on the Total Pension Liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2014, this average was 5.00 years. During the measurement year, there were no assumption or benefit changes. There was an experience gain of $1,890,334 with $378,067 of that recognized in the current year and in each of the next four years.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment loss of $15,382,915. $3,076,583 of that loss was recognized in the current year and an identical amount will be recognized in each of the next four years. Unrecognized investment gains from prior periods were $6,378,310 of which $1,594,577 was recognized as a reduction in pension expense in the current year.

Experience gains this year created a deferred inflow of resources of $1,512,267 (Division's share $257,085). The combination of unrecognized investment losses this year along with unrecognized net investment gains from prior periods results in a deferred outflow of resources as of December 31, 2015 of $7,522,599 (Division's share $1,278,842). The table below summarizes the current balances of deferred outflows and deferred inflows of resources along with the net recognition over future years. In addition, KUB recorded a deferred outflow of resources of $2,834,692 (Division's share $481,897) at June 30, 2016 for employer contributions made between December 31, 2015 and June 30, 2016.

| | Deferred Outflows of Resources | Deferred Inflows of Resources |
|---|---|---|
| Differences between expected and actual experience | $ - | $ 1,512,267 |
| Changes in assumptions | - | - |
| Net difference between projected and actual earnings on pension plan investments | 7,522,599 | - |
| Contributions subsequent to measurement date | 2,834,692 | - |
| Total | $ 10,357,291 | $ 1,512,267 |

Amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:

| Year ended June 30: | |
|---|---|
| 2017 | $ 3,938,630 |
| 2018 | 1,103,939 |
| 2019 | 1,103,938 |
| 2020 | 2,698,517 |
| Thereafter | - |

## 11. Defined Contribution Plan

The KUB Asset Accumulation 401(k) Plan (the “401(k) Plan”) is a defined contribution 401(k) employee retirement savings plan covering eligible KUB employees established by the KUB Board of Commissioners in accordance with the Charter of the City of Knoxville, Tennessee. The 401 (k) Plan’s assets are held in trust under an agreement between KUB and Fidelity Management Trust Company. Employees hired prior to January 1, 2011 may participate and receive a matching contribution of 50 percent of their own contribution up to a maximum match of 3 percent. Employees hired on or after January 1, 2011 have an enhanced 401(k) due to the closure of the Defined Benefit Pension Plan. They may participate and receive a matching contribution of 50 percent of their own contribution up to a maximum match of 3 percent. They also receive a nonelective KUB contribution of from 3 percent to 6 percent, depending on years of service, whether they contribute or not.

Matching contributions were previously remitted to the KUB Pension Plan (a separate defined benefit plan) in the name of the participant for employees hired prior to January 1, 2011. As of December 9, 2015, these Pension match assets moved from the KUB Pension Plan to the 401(k) Plan. Effective December 9, 2015, all matching contributions are remitted to the 401(k) Plan. The match and nonelective contributions for employees hired on or after January 1, 2011 are paid directly by KUB. KUB funded 401(k) matching contributions and nonelective contributions of $1,739,057 (Division’s share $295,640) and $1,593,350 (Division’s share $286,803), respectively, for the years ended June 30, 2016 and 2015.

## 12. Other Post-Employment Benefits (OPEB)

The Governmental Accounting Standards Board (GASB) established standards for the measurement, recognition, and reporting of other post-employment benefits (OPEB). OPEB includes post-employment benefits other than pension, which, for KUB, is presently limited to post-employment health care. GASB Statement No. 45 (Statement No. 45) requires the recognition of the accrued OPEB liability for the respective year, plus the disclosure of the total unfunded liability.

KUB currently provides post-employment health care benefits to 585 former employees and 593 covered dependents. The cost of coverage is shared with retirees and beneficiaries. KUB recognizes its share of the cost of post-employment health care benefits as an expense as claims are paid.

KUB amended its Group Health Plan in 1999, eliminating post-employment health care benefits for all employees hired on or after July 1, 1999. As of June 30, 2016, 356 active employees were eligible for individual and dependent coverage at separation. To qualify, the employee must meet the Rule of 80 (age plus years of service) with a minimum of 20 years of service, and be enrolled in medical coverage on their last day.

In May 2006, the State of Tennessee adopted Tennessee Code Annotated, Title 8, Chapter 50, Part 12 authorizing governmental entities to establish Trusts for the purpose of pre-funding their respective OPEB liabilities.

Although Statement No. 45 does not require pre-funding of the liability, KUB has determined that it is in the long-term economic interest of KUB and its ratepayers to establish a Trust to pre-fund KUB’s OPEB liability.

Knoxville Utilities Board Other Post-Employment Benefits Trust (the “Trust”) is a single-employer Other Post-Employment Benefits Plan established by the Knoxville Utilities Board (KUB) Board of Commissioners through Resolution No. 1168, as amended, dated October 18, 2007. The applicable documentation was submitted to the State Funding Board and, in December 2007, the State Funding Board approved the Trust. The Trust was also approved by the Internal Revenue Service in June 2008. KUB administers the Trust through a Board of Trustees consisting of seven KUB employees that are appointed by KUB's President and CEO. Any amendments to the Trust involving costs not approved in the operating budget must be approved by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Trust may be approved by KUB's President and CEO upon 60 days notification to the KUB Audit and Finance Committee. The investment of all deposits to the Trust is governed by an Investment Policy, which was adopted by the KUB Board and approved by the State Funding Board.

KUB makes annual contributions to the Trust at an actuarially determined rate. Based on the date of retirement, certain retired plan members are required to contribute specified amounts monthly to maintain health insurance. Those who retired prior to July 1983 have no required monthly premiums for themselves or dependents. The retirees, or their surviving dependents, who retired between August 1983 and January 1998 are required to pay $250 per month for pre-Medicare family health insurance. For individuals who retired after January 1998, the required monthly premium for pre-Medicare health insurance is $250 for single coverage and $500 for family coverage. There is currently no premium for Medicare eligible retirees or dependents.

An actuarial valuation of KUB's Postretirement Benefit Plan was performed for the Trust as of January 1, 2014 for fiscal year June 30, 2015 and January 1, 2015 for fiscal year June 30, 2016. The following table presents the OPEB cost for the year, the amount contributed to the Trust, and changes in the net OPEB obligation for fiscal year ending June 30:

| | **2016** | **2015** |
|---|---|---|
| **a)** Net OPEB Obligation/(Asset) at beginning of fiscal year | $ (174,410) | $ (177,322) |
| **b)** Annual Required Contribution (ARC) | 953,221 | 3,497,372 |
| **c)** Interest on Net OPEB Obligation/(Asset) | (13,081) | (14,186) |
| **d)** Adjustment to ARC | (16,427) | (17,098) |
| **e)** Annual OPEB Cost **(b+c-d)** | 956,567 | 3,500,284 |
| **f)** Employer Contributions | 953,221 | 3,497,372 |
| **g)** Net OPEB Obligation/(Asset) at end of fiscal year **(a+e-f)** | $ (171,064) | $ (174,410) |

KUB's annual OPEB cost, the percentage of annual OPEB cost contributed to the Trust, and the net OPEB obligation for fiscal year 2016 and the two preceding years were as follows:

**Schedule of Employer Contributions**

| **Actuarial Valuation Date** | **Employer Fiscal Year** | **Annual Required Contribution** | **Fiscal Year Actual Contribution** | **Percentage Contributed** | **Net OPEB Obligation** |
|---|---|---|---|---|---|
| 1/1/2012 | 6/30/2014 | 3,327,412 | 4,057,091 | 121.93% | (177,322) |
| 1/1/2013 | 6/30/2015 | 3,497,372 | 3,497,372 | 100.00% | (174,410) |
| 1/1/2014 | 6/30/2016 | 953,221 | 953,221 | 100.00% | (171,064) |

Total contributions to the OPEB Trust for the fiscal year ended June 30, 2016 were $953,221 (Division's share $162,048). The contribution to the Trust was consistent with the annual required contribution, as determined by the Postretirement Benefit Plan's actuarial valuation as of January 1, 2014, which was $953,221 (Division's share $162,048). As of June 30, 2016, the employer's OPEB obligation has been exceeded by $171,064 (Division's share $29,081).

The annual required contribution for the fiscal year ending June 30, 2017, as determined by the Plan's actuarial valuation as of January 1, 2015 is $620,015 (Division's share $105,403).

The actuarial valuation for the Plan as of January 1, 2016 has been completed. The valuation determined that the Plan's actuarial accrued liability was $45,118,624 (Division's share $7,670,166). The actuarial value of the Plan's assets was $48,510,796 (Division's share $8,246,835). As a result, the Plan's unfunded actuarial accrued liability was ($3,392,172) (Division's share ($576,669)). The Plan's actuarial funded ratio was 108 percent. Due to the future implementation of GASB 75, the contributions made for fiscal year ending June 30, 2018 will be the actuarially determined contribution instead of the annual required contribution and the actuarial cost method used to determine the contributions will change from the projected unit credit cost method to the entry age normal cost method. The actuarially determined contribution for fiscal year ending June 30, 2018 will be zero. See Required Supplementary Information for OPEB Schedule of Funding Progress.

The actuarial valuations dated January 1, 2015 and 2016, which determine the annual required contribution and actuarially determined contribution for future fiscal years ending June 30, 2017 and 2018, have not been audited.

Actuarial valuations involve estimates of the value of reported amounts and assumptions about the probability of events far into the future, and actuarially determined amounts are subject to continual revision as actual results are compared to past expectations and new estimates are made about the future.

The required schedule of funding progress immediately following the notes to the financial statements presents multi-year trend information about whether the actuarial value of Trust assets is increasing or decreasing over time relative to the actuarial accrued liability for benefits.

Calculations are based on the benefits provided under the terms of the substantive plan in effect at the time of each valuation and on the pattern of sharing of costs between the employer and plan members to that point.

Actuarial calculations reflect a long-term perspective. Consistent with that perspective, actuarial methods and assumptions used include techniques that are designed to reduce short-term volatility in actuarial accrued liabilities and the actuarial value of assets.

Identification of actuarial methods and significant assumptions used to determine the annual required contribution for the fiscal year ending June 30, 2016:

| | |
|---|---|
| I. Actuarial cost method | Projected unit credit cost method |
| II. Actuarial value of assets | Smoothed market value with phase-in method using a smoothing period of 5 years |
| III. Investment return | 7.5%, based on the expected portfolio return |
| Projected salary increases | N/A |
| Healthcare cost Trend: | |
| Medicare | 2014 - 2030+, ranging from 4.5% to 7.45% |
| Non-Medicare | 2014 - 2030+, ranging from 4.5% to 8.75% |
| IV. Amortization method | Level dollar closed (30-year) |
| Remaining amortization period | 22 years |

The Trust issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017.

## 13. Related Party Transactions

The Division, in the normal course of operations, is involved in transactions with the City of Knoxville and with other divisions of KUB. Such transactions for the years ended June 30, 2016 and 2015 are summarized as follows:

| | **2016** | **2015** |
|---|---|---|
| City of Knoxville | | |
| Amounts billed by the Division for utilities and related services | $ 590,941 | $ 750,765 |
| Payments by the Division in lieu of property tax | 3,682,642 | 3,251,836 |
| Payments by the Division for services provided | 94,019 | 74,607 |
| Other divisions of KUB | | |
| Amounts billed to other divisions for utilities and related services provided | 246,060 | 321,789 |
| Interdivisional rental expense | 496,916 | 453,442 |
| Amounts billed to the Division by other divisions for utilities services provided | 268,957 | 286,315 |

With respect to these transactions, accounts receivable from the City of Knoxville included in the balance sheet at year end were:

| | **2016** | **2015** |
|---|---|---|
| Accounts receivable | $ 6,644 | $ 5,902 |

## 14. Natural Gas Supply Contract Commitments

For fiscal year 2016, the Gas Division hedged 67 percent of its total gas purchases via gas supply contracts. As of June 30, 2016, the Gas Division had hedged the price on approximately 20 percent of its anticipated gas purchases for fiscal year 2017.

The Gas Division contracts separately for the purchase, transportation and storage of natural gas. Purchase commitments for the next five years are as follows:

Firm obligations related to purchased gas - demand

| | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|
| Transportation | | | | | |
| Tennessee Gas Pipeline | $ 3,269,844 | $ 3,269,844 | $ 3,269,844 | $ 1,089,948 | $ - |
| East Tennessee Natural Gas | 10,066,388 | 10,066,388 | 10,066,388 | 2,748,496 | - |
| Storage | | | | | |
| Tennessee Gas Pipeline | 1,787,976 | 1,787,976 | 1,787,976 | 595,992 | - |
| East Tennessee Natural Gas | 757,460 | 757,460 | 757,460 | - | - |
| Saltville Natural Gas | 1,870,560 | 1,548,030 | 580,440 | 435,330 | - |
| Demand Total | $ 17,752,228 | $ 17,429,698 | $ 16,462,108 | $ 4,869,766 | $ - |

Firm obligations related to purchased gas - commodity

| | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|
| Baseload | | | | | |
| Conoco | $ 5,719,700 | $ - | $ - | $ - | $ - |
| Shell Energy | 739,680 | - | - | - | - |
| BP | 6,104,693 | 6,181,363 | 5,874,650 | 1,801,950 | - |
| CNX | 1,709,713 | 1,648,048 | - | - | - |
| Commodity Total | $ 14,273,786 | $ 7,829,411 | $ 5,874,650 | $ 1,801,950 | $ - |

The total commodity values presented here are based upon firm supply obligations with each individual natural gas supplier. The firm obligations values for Conoco, Shell Energy, and BP are based upon firm supply obligations and locked prices with those suppliers. The firm obligations value for CNX is based upon firm supply obligations and the applicable four month NYMEX strip prices on June 30, 2016.

## 15. Other Commitments and Contingencies

In the normal course of business, there are various lawsuits pending against KUB. Management has reviewed these lawsuits with counsel, who is vigorously defending KUB's position and is of the opinion that the ultimate disposition of these matters will not have a material adverse effect on KUB's financial position, results of operations or cash flows.

# Knoxville Utilities Board Gas Division
## Required Supplemental Information - Schedule of Funding Progress
## June 30, 2016
## (Unaudited)

**Other Post-Employment Benefits (OPEB)**

| | Valuation Date | Actuarial Value of Assets (a) | Actuarial Accrued Liability (AAL) (b) | Unfunded Actuarial Accrued Liability (UAAL) (b-a) | Funded Ratio (a)/(b) | Covered Payroll (c) | UAAL as a Percentage of Covered Payroll [(b)-(a)]/(c) |
|---|---|---|---|---|---|---|---|
| | January 1, 2008 | $ - | $ 108,329,141 | $ 108,329,141 | 0% | $ 31,234,509 | 346.8% |
| | January 1, 2009 | 14,593,487 | 100,726,738 | 86,133,251 | 14% | 31,846,091 | 270.5% |
| | January 1, 2010 | 21,275,643 | 58,475,364 | 37,199,721 | 36% | 30,069,028 | 123.7% |
| | January 1, 2011 | 40,749,815 | 64,289,254 | 23,539,439 | 63% | 28,878,791 | 81.5% |
| | January 1, 2012 | 37,907,357 | 61,603,466 | 23,696,109 | 62% | 28,269,123 | 83.8% |
| | January 1, 2013 | 38,571,803 | 63,341,531 | 24,769,728 | 61% | 27,566,340 | 89.9% |
| | January 1, 2014 | 43,409,955 | 46,889,808 | 3,479,853 | 93% | 26,724,154 | 13.0% |
| * | January 1, 2015 | 47,705,478 | 47,745,640 | 40,162 | 100% | 25,816,884 | 0.2% |
| * | January 1, 2016 | 48,510,796 | 45,118,624 | (3,392,172) | 108% | 25,243,127 | (13.4%) |

***** The actuarial valuations dated January 1, 2015 and 2016, which determine the annual required contribution for future fiscal years ending June 30, 2017 and 2018, have not been audited.

# Knoxville Utilities Board Gas Division
## Required Supplemental Information - Schedule of Changes in Net Pension Liability and Related Ratios
## June 30, 2016
## (Unaudited)

| | Year ended December 31 | |
|---|---|---|
| | 2015 | 2014 |
| **Total pension liability** | | |
| Service cost | $ 4,157,062 | $ 4,092,808 |
| Interest | 14,812,784 | 14,698,657 |
| Differences between expected and actual experience | (1,890,334) | - |
| Benefit payments, including refunds of member contributions | (15,350,926) | (15,533,167) |
| **Net change in total pension liability** | 1,728,586 | 3,258,298 |
| | | |
| **Total pension liability - beginning** | 202,773,764 | 199,515,466 |
| **Total pension liability - ending (a)** | $ 204,502,350 | $ 202,773,764 |
| | | |
| **Plan fiduciary net position** | | |
| Contributions - employer | $ 5,991,887 | $ 5,908,541 |
| Contributions - participants | 487,546 | 475,854 |
| Net investment income | (95,430) | 22,292,369 |
| Other additions | 30,879 | 29,733 |
| Benefit payments, including refunds of member contributions | (15,274,926) | (15,405,167) |
| Administrative expense | (397,160) | (378,085) |
| Death benefits | (76,000) | (128,000) |
| **Net change in plan fiduciary net position**** | (9,333,204) | 12,795,245 |
| | | |
| **Plan fiduciary net position - beginning**** | 208,795,394 | 196,000,149 |
| **Plan fiduciary net position - ending (b)**** | $ 199,462,190 | $ 208,795,394 |
| **Plan's net pension liability - ending (a) - (b)** | $ 5,040,160 | $ (6,021,630) |
| Plan fiduciary net position as a percentage of the total pension liability | 97.54% | 102.97% |
| Covered-employee payroll | $ 50,679,585 | $ 50,246,074 |
| Plan's net pension liability as a percentage of covered-employee payroll | 9.95% | (11.98%) |

**Notes to Schedule:**

* Information not reflected prior to 2014 due to changes in actuary methodologies required under GASB 67, which was implemented in 2014.

** Excludes amounts related to 401(k) matching contributions.

# Knoxville Utilities Board Gas Division
## Required Supplemental Information - Schedule of Employer Pension Contributions
## June 30, 2016
## (Unaudited)

| | Year ended December 31<br>2015 | <br>2014 |
|---|---|---|
| Annual required contribution | $ 5,991,887 | $ 5,908,541 |
| Contribution in relation to the annual required contribution | 5,991,887 | 5,908,541 |
| Contribution deficiency | $ - | $ - |
| Covered-employee payroll | $ 50,679,585 | $ 50,246,074 |
| Contributions as a percentage of covered-employee payroll | 11.82% | 11.76% |

**Notes to Schedule:**

| | |
|---|---|
| Valuation Dates: | January 1, 2013 and January 1, 2014 |
| Timing: | Actuarially determined contributions for a plan year are based upon 50% of the amounts determined at the actuarial valuations for each of the two prior plan years. |

**Key methods and assumptions used to determine contribution rates:**

| | |
|---|---|
| Actuarial cost method: | Individual entry age |
| Asset valuation method: | 5-year smoothed market |
| Amortization method: | Level dollar closed period with 28 years remaining as of January 1, 2013 and 27 years remaining as of January 1, 2014. |
| Discount rate: | 8% at January 1, 2013 and 7.5% at January 1, 2014 |
| Salary increases: | From 2.58% to 7.92% for January 1, 2013 and from 2.8% to 5.15% for January 1, 2014, based on years of service |
| Mortality: | Sex distinct RP-2000 Combined Mortality projected to 2018 using Scale AA for the Janaury 1, 2013 valuation. Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA for the January 1, 2014 valuation. |
| Inflation: | 2.8 percent |

* Schedule of Employer Contribution information is not reflected prior to 2014 due to changes in actuary methodologies required under GASB 67, which was implemented 2014.

# Knoxville Utilities Board Gas Division

## Supplemental Information - Schedule of Insurance in Force

## June 30, 2016

## (Unaudited) Schedule 1

**Insurance coverage is for KUB as a consolidated entity.**

### Crime

Covers losses resulting from employee dishonesty, robbery, burglary, and computer fraud. Limits of coverage - $5,000,000; $250,000 retention.

### Directors' and Officers' Liability Insurance

Covers KUB personnel appropriately authorized to make decisions on behalf of KUB (including but not limited to Commissioners, President and CEO, Senior Vice Presidents, Vice Presidents, and Directors) for wrongful acts. Limits of coverage - $20,000,000; $1,000,000 corporate deductible, $0 individual deductible.

### Employment Practices Liability

Coverage for costs related to actual or alleged employment practices violations for amounts exceeding specified amount ($500,000). Limits of coverage - $10,000,000.

### Fiduciary

Covers losses resulting from wrongful acts related to KUB's Pension, 401(k), and OPEB Trust funds. Limits of coverage - $10,000,000; $150,000 deductible.

### Pollution Legal Liability

New conditions coverage for losses exceeding specified amount per occurrence ($1,000,000). Limits of coverage - $20,000,000.

### Property Insurance

This coverage provides protection of KUB's property for fire, extended coverage, vandalism and malicious mischief, and coverage on boilers and machinery. Also included are flood and earthquake damage and mechanical failure. Limits of coverage - $250,000,000 per occurrence (subject to certain sublimits); $2,500,000 deductible per occurrence.

### Travel Accident

Covers losses related to employees' business travel. Limits of coverage - $1,500,000 aggregate.

### Excess Insurance for General Liability

As a government entity, KUB's liability is limited under the Tennessee Governmental Tort Liability Act (TCA §29-20-403). KUB is self-insured for up to the first $700,000 of any accident and has insurance of $1,000,000 above this retention.

### Excess Insurance for Workers' Compensation

Covers all losses exceeding specified amount per occurrence ($1,000,000). Limits of coverage - Statutory; stop loss coverage applies for aggregate losses over $5,000,000.

### Employee Health Plan Stop Loss Coverage

KUB's employee health plan is self-funded. KUB has purchased stop loss insurance, which covers KUB's exposure to annual expenses in excess of $400,000 per individual participant.

# Knoxville Utilities Board Gas Division

## Supplemental Information - Schedule of Debt Maturities by Fiscal Year

## June 30, 2016

## (Unaudited)

**Schedule 2**

Continued on Next Page

| | L-2005 | | N-2007 | | P-2010 | | | Q-2012 | |
|---|---|---|---|---|---|---|---|---|---|
| **FY** | **Principal** | **Interest** | **Principal** | **Interest** | **Principal** | **Interest** | **Rebate*** | **Principal** | **Interest** |
| 16-17 | 725,000 | 441,278 | 550,000 | 27,500 | 540,000 | 645,843 | 226,045 | 2,065,000 | 806,548 |
| 17-18 | 760,000 | 406,840 | | | 570,000 | 628,023 | 219,808 | 2,125,000 | 744,598 |
| 18-19 | 795,000 | 372,640 | | | 595,000 | 606,363 | 212,227 | 2,190,000 | 680,848 |
| 19-20 | 830,000 | 336,865 | | | 620,000 | 581,075 | 203,376 | 2,260,000 | 615,148 |
| 20-21 | 865,000 | 299,515 | | | 645,000 | 553,175 | 193,611 | 2,350,000 | 524,748 |
| 21-22 | 910,000 | 260,590 | | | 670,000 | 521,731 | 182,606 | 2,445,000 | 430,748 |
| 22-23 | 945,000 | 223,053 | | | 695,000 | 488,231 | 170,881 | 2,540,000 | 332,948 |
| 23-24 | 980,000 | 182,890 | | | 725,000 | 453,481 | 158,718 | 2,645,000 | 231,348 |
| 24-25 | 1,025,000 | 141,240 | | | 750,000 | 413,606 | 144,762 | 760,000 | 125,548 |
| 25-26 | 1,065,000 | 96,140 | | | 785,000 | 372,358 | 130,325 | 780,000 | 102,748 |
| 26-27 | 1,120,000 | 49,280 | | | 815,000 | 328,200 | 114,870 | 800,000 | 79,348 |
| 27-28 | | | | | 845,000 | 279,300 | 97,755 | 830,000 | 54,348 |
| 28-29 | | | | | 880,000 | 228,600 | 80,010 | 855,000 | 27,788 |
| 29-30 | | | | | 915,000 | 175,800 | 61,530 | | |
| 30-31 | | | | | 950,000 | 120,900 | 42,315 | | |
| 31-32 | | | | | 1,000,000 | 62,000 | 21,700 | | |
| 32-33 | | | | | | | | | |
| 33-34 | | | | | | | | | |
| 34-35 | | | | | | | | | |
| Total | $ 10,020,000 | $ 2,810,331 | $ 550,000 | $ 27,500 | $ 12,000,000 | $ 6,458,686 | $ 2,260,539 | $ 22,645,000 | $ 4,756,714 |

*Series P-2010 bonds were issued as federally taxable Build America Bonds. KUB will receive a 35 percent interest rebate payment from the United States Government for each interest payment. Effective October 1, 2015 these bonds became subject to a 6.8% reduction in rebate payment amounts due to the United States Government sequestration. The sequestration is in effect until intervening Congressional action, at which time the sequestration rate is subject to change.

# Knoxville Utilities Board Gas Division
## Supplemental Information - Schedule of Debt Maturities by Fiscal Year
## June 30, 2016
## (Unaudited)

## Schedule 2

Continued from Previous Page

| | R-2012 | | S-2013 | | T-2013 | | U-2015 | | Totals | | Grand Total (P + I) | Grand Total (Less Rebate) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FY | Principal | Interest | Principal | Interest | Principal | Interest | Principal | Interest | Principal | Interest | | |
| 16-17 | 400,000 | 282,530 | 570,000 | 374,100 | 500,000 | 1,011,825 | 100,000 | 397,638 | 5,450,000 | 3,987,262 | 9,437,262 | 9,211,217 |
| 17-18 | 425,000 | 270,530 | 595,000 | 351,300 | 500,000 | 996,825 | 615,000 | 395,637 | 5,590,000 | 3,793,753 | 9,383,753 | 9,163,945 |
| 18-19 | 425,000 | 257,780 | 615,000 | 327,500 | 500,000 | 976,825 | 660,000 | 377,187 | 5,780,000 | 3,599,143 | 9,379,143 | 9,166,916 |
| 19-20 | 450,000 | 240,781 | 645,000 | 302,900 | 500,000 | 956,825 | 680,000 | 357,387 | 5,985,000 | 3,390,981 | 9,375,981 | 9,172,605 |
| 20-21 | 475,000 | 222,781 | 695,000 | 277,100 | 500,000 | 936,825 | 710,000 | 323,387 | 6,240,000 | 3,137,531 | 9,377,531 | 9,183,920 |
| 21-22 | 475,000 | 203,781 | 715,000 | 249,300 | 500,000 | 916,825 | 740,000 | 287,887 | 6,455,000 | 2,870,862 | 9,325,862 | 9,143,256 |
| 22-23 | 500,000 | 184,781 | 730,000 | 227,850 | 500,000 | 901,825 | 795,000 | 250,888 | 6,705,000 | 2,609,576 | 9,314,576 | 9,143,695 |
| 23-24 | 525,000 | 169,781 | 745,000 | 205,950 | 500,000 | 886,200 | 805,000 | 233,000 | 6,925,000 | 2,362,650 | 9,287,650 | 9,128,932 |
| 24-25 | 550,000 | 159,281 | 790,000 | 183,600 | 1,550,000 | 869,950 | 845,000 | 208,850 | 6,270,000 | 2,102,075 | 8,372,075 | 8,227,313 |
| 25-26 | 575,000 | 142,781 | 800,000 | 159,900 | 1,600,000 | 813,763 | 880,000 | 183,500 | 6,485,000 | 1,871,190 | 8,356,190 | 8,225,865 |
| 26-27 | 575,000 | 130,560 | 840,000 | 135,900 | 1,650,000 | 749,763 | 895,000 | 154,900 | 6,695,000 | 1,627,951 | 8,322,951 | 8,208,081 |
| 27-28 | 600,000 | 117,625 | 875,000 | 110,700 | 1,700,000 | 683,763 | 985,000 | 123,573 | 5,835,000 | 1,369,309 | 7,204,309 | 7,106,554 |
| 28-29 | 625,000 | 99,625 | 905,000 | 84,450 | 1,750,000 | 615,763 | 975,000 | 89,100 | 5,990,000 | 1,145,326 | 7,135,326 | 7,055,316 |
| 29-30 | 650,000 | 84,000 | 940,000 | 57,300 | 1,950,000 | 543,575 | 955,000 | 59,850 | 5,410,000 | 920,525 | 6,330,525 | 6,268,995 |
| 30-31 | 675,000 | 64,500 | 970,000 | 29,100 | 2,000,000 | 460,700 | 1,040,000 | 31,200 | 5,635,000 | 706,400 | 6,341,400 | 6,299,085 |
| 31-32 | 725,000 | 44,250 | | | 2,000,000 | 373,200 | | | 3,725,000 | 479,450 | 4,204,450 | 4,182,750 |
| 32-33 | 750,000 | 22,500 | | | 2,000,000 | 283,200 | | | 2,750,000 | 305,700 | 3,055,700 | 3,055,700 |
| 33-34 | | | | | 2,100,000 | 193,200 | | | 2,100,000 | 193,200 | 2,293,200 | 2,293,200 |
| 34-35 | | | | | 2,100,000 | 96,600 | | | 2,100,000 | 96,600 | 2,196,600 | 2,196,600 |
| Total | $ 9,400,000 | $ 2,697,867 | $ 11,430,000 | $ 3,076,950 | $ 24,400,000 | $ 13,267,452 | $ 11,680,000 | $ 3,473,984 | $ 102,125,000 | $ 36,569,484 | $ 138,694,484 | $ 136,433,945 |

# Knoxville Utilities Board Gas Division

## Supplemental Information - Schedule of Current Rates in Force

## June 30, 2016

## (Unaudited)

## Schedule 3

| Rate Class | Base Charge | Number of Customers |
|---|---|---|
| Residential (G-2) | For the regular monthly billing period for the months of November to April, inclusive:<br>Customer charge per month $7.65<br>First 30 therms per month at $0.9670 per therm<br>Excess over 30 therms per month at $0.7548 per therm<br>For the regular monthly billing periods for the months of May to October, inclusive:<br>Customer charge per month $7.65<br>First 50 therms per month $0.7883 per therm<br>Excess over 50 therms per month at $0.6697 per therm | 90,395 |
| Commercial (G-4) | Available to any commercial or industrial customer:<br>Customer charge per month $16.00<br>First 250 therms per month at $0.8923 per therm<br>Excess over 250 therms per month at $0.7784 per therm | 9,122 |
| Commercial (G-6) | Available to any commercial or industrial customer incurring a demand of twenty-seven therms or more during the current monthly billing period or during any of the eleven net preceding monthly billing periods.<br>The net rate is the sum of the following demand and commodity charges:<br>Customer charge: $130.00 per month<br>Demand charge: $1.90 per therm of demand<br>Commodity charge: First 30,000 therms per month at $0.5230 per therm<br>Excess over 30,000 therms per month at $0.4319 per therm | 260 |
| Industrial (G-7) | Service under Rate Schedule G-7 shall be available to any customer who meets the following conditions:<br>(a) Customer's annual Interruptible Gas use, on an actual or projected basis, shall not be less than 25,000 dekatherms;<br>(b) Customer shall be permitted to purchase only one (1) dekatherm of Firm Gas under Rate Schedule G-7 for each two (2) dekatherms of Interruptible Gas which are purchased;<br>(c) Customer must have standby equipment of sufficient capacity capable of providing the customer's normal gas service requirements for a period of five (5) working days without replenishment when Interruptible Gas is completely interrupted. Customer shall maintain such equipment ready for operation at any time and shall utilize a fuel other than gas furnished by KUB and shall be subject to periodic inspections by KUB to ensure compliance with this provision; and<br>(d) KUB must determine that its existing distribution system facilities are adequate and available for the requested service. | 13 |

# Knoxville Utilities Board Gas Division
## Supplemental Information - Schedule of Current Rates in Force
## June 30, 2016
## (Unaudited)

**Schedule 3**

| Rate Class | Base Charge | | Number of Customers |
|---|---|---|---|
| | The net rate is the sum of the following demand and commodity charges: | | |
| | Customer charge: | $300.00 per month | |
| | Demand charge: | $19.00 per month per dekatherm of demand | |
| | Commodity charge: | (a) Firm Gas - $4.319 per dekatherm<br>(b) Interruptible Gas - (i) First 3,000 dekatherms per month at $4.026 per dekatherm; excess of 3,000 to 20,000 dekatherms per month at $3.445 per dekatherm; plus excess over 20,000 to 50,000 dekatherms per month at $2.671 per dekatherm; excess over 50,000 dekatherms per month at $2.460 per dekatherm<br>(c) Supplemental Gas - The Commodity Charge for Supplemental Gas shall be the total of: (a) the cost per dekatherm to KUB for the applicable Day of acquiring Supplemental Gas on the open market, subject to the approval of the Customer to purchase Supplemental Gas at or above such price and (b) the costs incurred by KUB in transporting such Supplemental Gas via connecting pipelines to one or more of KUB's delivery points. | |
| | Transportation charge: | $1.996 per dekatherm for the first 3,000 dekatherms of gas Redelivered plus Unauthorized Gas; plus $1.415 per dekatherm for each dekatherm from 3,000 to and including 20,000 dekatherms of gas Redelivered plus Unauthorized Gas; plus $.641 per dekatherm for each dekatherm from 20,000 to and including 50,000 dekatherms of gas Redelivered plus Unauthorized Gas; plus $.430 per dekatherm for the excess over 50,000 dekatherms of gas Redelivered plus Unauthorized Gas. | |
| | Unauthorized Gas charge: | $15.00 per dekatherm of Unauthorized Gas as a penalty, plus the total of: (a) the cost per dekatherm of obtaining such gas on the open market as determined by the higher of (1) the applicable Gulf Coast Price Index for the applicable Day as published in *Gas Daily* or, if *Gas Daily* is no longer published, in a comparable reliable source for natural gas prices or (2) the applicable first of the month Gulf Coast Price Index as published in *Inside FERC*, or if *Inside FERC* is no longer published, in a comparable reliable source for natural gas prices and (b) the costs incurred by KUB in transporting such Unauthorized Gas via connecting pipelines to one or more of KUB's delivery points. | |

# Knoxville Utilities Board Gas Division
## Supplemental Information - Schedule of Current Rates in Force
## June 30, 2016
## (Unaudited)

## Schedule 3

| Rate Class | Base Charge | Number of Customers |
|---|---|---|
| G-11 | Service under Rate Schedule G-11 shall be available to any customer who meets the following conditions:<br>(a) Customer's annual gas usage (excluding Firm Gas), on an actual or projected basis, shall not be less than 25,000 dekatherms;<br>(b) Customer shall be permitted to purchase only one (1) dekatherm of Firm Gas under Rate Schedule G-11 for each two (2) dekatherms of Transport Gas delivered by KUB to the Customer;<br>(c) Customer must have standby equipment of sufficient capacity capable of providing the customer's normal gas service requirements for a period of five (5) working days without replenishment when Transport Gas is completely interrupted. Customer shall maintain such equipment ready for operation at any time and shall utilize a fuel other than gas furnished by KUB and shall be subject to periodic inspections by KUB to ensure compliance with this provision;<br>(d) Customer's use under this rate shall not work a hardship on any other customers of KUB, nor adversely affect any other class of KUB's customers and further provided the Customer's use under this rate shall not adversely affect KUB's gas purchase plans and/or effective utilization of the daily demands under KUB's gas purchase contracts with its suppliers, as solely determined by KUB.<br>(e) KUB must determine that its existing distribution system facilities are adequate and available for the requested service; and<br>(f) Customer must execute a Transportation Service Agreement for interruptible transportation gas service.<br><br>The net rate is the sum of the following charges:<br>Customer charge: $400.00<br>Demand charge: $19.00 per dekatherm of demand<br>Firm Gas charge: $4.319 per dekatherm<br>Transportation charge: $1.996 per dekatherm for the first 3,000 dekatherms of non-Firm gas delivered to Customer; plus $1.415 per dekatherm for each dekatherm from 3,000 to and including 20,000 dekatherms of non-Firm gas delivered to Customer; plus $.641 per dekatherm for each dekatherm from 20,000 to and including 50,000 dekatherms of non-Firm gas delivered to Customer; plus $.430 per dekatherm for the excess over 50,000 dekatherms of non-Firm gas delivered to Customer.<br>Standby Gas charge: The charge for Standby Gas shall be the total of: (a) the cost per dekatherm to KUB for the applicable Day of acquiring Standby Gas on the open market, subject to the approval of the Customer to purchase Standby Gas at or above such price and (b) the costs incurred by KUB in transporting such Standby Gas via connecting pipelines to one or more of KUB's delivery points. | 14 |

# Knoxville Utilities Board Gas Division
## Supplemental Information - Schedule of Current Rates in Force
## June 30, 2016
## (Unaudited)
## Schedule 3

| Rate Class | Base Charge | | Number of Customers |
|---|---|---|---|
| | Unauthorized Gas charge: | $15.00 per dekatherm of Unauthorized Gas as a penalty, plus the total of: (a) the cost per dekatherm of obtaining such gas on the open market as determined by the higher of (1) the applicable Gulf Coast Price Index for the applicable Day as published in *Gas Daily* or, if *Gas Daily* is no longer published, in a comparable reliable source for natural gas prices or (2) the applicable first of the month Gulf Coast Price Index as published in *Inside FERC*, or if *Inside FERC* is no longer published, in a comparable reliable source for natural gas prices and (b) the costs incurred by KUB in transporting such Unauthorized Gas via connecting pipelines to one or more of KUB's delivery points. | |
| | Other charges: | Imbalance Charges, and any pipeline scheduling, balancing, transportation, or other similar charges incurred by KUB in connection with the transportation of gas on behalf of the Customer, as applicable. | |
| G-12 | Service under Rate Schedule G-12 shall be available to any customer when the following conditions are met:<br>(a) Customer's annual gas usage, on an actual or projected basis, shall not be less than 12,500 dekatherms;<br>(b) KUB must determine that its existing distribution system facilities are adequate and available for the requested service;<br>(c) Customer must execute a Transportation Service Agreement for firm transportation gas service; and<br>(d) Customer's use under this rate shall not work a hardship on any other customers of KUB, nor adversely affect any other class of KUB's customers and further provided the Customer's use under this rate shall not adversely affect KUB's gas purchase plans and/or effective utilization of the daily demands under KUB's gas purchase contracts with its suppliers, as solely determined by KUB. | | 4 |
| | The net rate is the sum of the following charges: | | |
| | Customer charge: | $400.00 | |
| | Demand charge: | $6.20 per dekatherm of demand | |
| | Transportation charge: | $2.256 per dekatherm for the first 3,000 dekatherms of gas delivered to Customer; plus $1.532 per dekatherm for each dekatherm from 3,000 to and including 20,000 dekatherms of gas delivered to Customer; plus $.731 per dekatherm for each dekatherm from 20,000 to and including 50,000 dekatherms of gas delivered to Customer; plus $.575 per dekatherm for the excess over 50,000 dekatherms of gas delivered to Customer. | |

# Knoxville Utilities Board Gas Division
## Supplemental Information - Schedule of Current Rates in Force
## June 30, 2016
## (Unaudited)

## Schedule 3

| Rate Class | Base Charge | | Number of Customers |
|---|---|---|---|
| | Standby Gas charge: | The charge for Standby Gas shall be the total of: (a) the cost per dekatherm to KUB for the applicable Day of acquiring Standby Gas on the open market, subject to the approval of the Customer to purchase Standby Gas at or above such price and (b) the costs incurred by KUB in transporting such Standby Gas via connecting pipelines to one or more of KUB's delivery points. | |
| | Unauthorized Gas charge: | $15.00 per dekatherm of Unauthorized Gas as a penalty, plus the total of: (a) the cost per dekatherm of obtaining such gas on the open market as determined by the higher of (1) the applicable Gulf Coast Price Index for the applicable Day as published in *Gas Daily* or, if *Gas Daily* is no longer published, in a comparable reliable source for natural gas prices or (2) the applicable first of the month Gulf Coast Price Index as published in *Inside FERC*, or if *Inside FERC* is no longer published, in a comparable reliable source for natural gas prices and (b) the costs incurred by KUB in transporting such Unauthorized Gas via connecting pipelines to one or more of KUB's delivery points. | |
| | Other charges: | Imbalance Charges, and any pipeline scheduling, balancing, transportation, or other similar charges incurred by KUB in connection with the transportation of gas on behalf of the Customer, as applicable. | |

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# Report of Independent Auditors on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with *Government Auditing Standards*

Board of Commissioners
Gas Division of the Knoxville Utilities Board
Knoxville, Tennessee

## Report on the Financial Statements

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the Gas Division (the Division) of the Knoxville Utilities Board, a component unit of the City of Knoxville, Tennessee, as of and for the year ended June 30, 2016, and the related notes to the financial statements, which collectively comprise the Division's basic financial statements, and have issued our report thereon dated October 27, 2016.

## Internal Control over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Division's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Division's internal control. Accordingly, we do not express an opinion on the effectiveness of the Division's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the Division's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Board of Commissioners
Gas Division of the Knoxville Utilities Board
Knoxville, Tennessee

## Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Division's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

## Purpose of Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Division's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Division's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Coulter & Justus, P.C.

Knoxville, Tennessee
October 27, 2016

APPENDIX D-1

# THE WATER DIVISION

# THE WATER DIVISION

## INTRODUCTION

The Water Division has been owned and operated by the City since 1909. The Water Division consists of a complete system for the treatment, storage and distribution of water.

The Water Division distributes water to 78,980 customers on an exclusive basis covering 188 square miles throughout the City and on a non-exclusive basis in portions of Knox, Sevier and Jefferson counties.

## SOURCE OF WATER SUPPLY

The KUB service area is supplied with water from the Tennessee River. The river furnishes an abundant supply of water for the Mark B. Whitaker Plant (the "MBW"), which is KUB's sole water plant and has a capacity of 62.9 million gallons per day (MGD).

Tennessee Valley Authority reservoirs are upstream, providing the river a year-round flow far in excess of the City's needs. Even during drought conditions, Knoxville's water supply has been more than adequate to meet customer requirements. MBW's average flow for fiscal year 2016 was 32.9 MGD.

The Water Division has long been committed to delivering a reliable supply of high quality drinking water to its customers. KUB's water quality laboratory is one of the few utility laboratories in the state certified by the State Department of Health and Environment to perform the complicated analysis necessary to maintain compliance with all federal drinking water regulations. The Safe Drinking Water Act of 1986 provides for mandatory disinfection and filtration treatment processes, which the Water Division has constantly maintained.

Capital projects that have recently improved the water filtration facilities at MBW included new filter valves and actuators. Those upgrades provided more operational flexibility for the plant.

KUB's excellent track record in providing high quality, reliable water supply to its customers has been achieved by maintaining excess capacity. KUB's reliance on a single water treatment plant combined with rising customer expectations and the potential for natural and man-made impacts on the water system provided the impetus to reassess our long-term strategy.

With an objective of achieving redundant firm capacity of approximately 40 MGD, two major options were considered, including (1) the construction of a second water plant on a different portion of our water system and (2) a combination of projects that would provide redundancy at MBW and "harden" key elements of our existing treatment processes at MBW.

After careful consideration, KUB is in the process of implementing a 15-year initiative to invest in redundancy and hardening at MBW through a series of capital projects, including the construction of a second full treatment train adjacent to the current plant. This additional treatment train will include dual intakes upstream of MBW on the Holston and French Broad Rivers, additional filters/clarifiers, new pumping and storage facilities, and new high service transmission mains extending from MBW.

This approach will meet reliability goals, mitigate primary risk factors at MBW, and provide additional operational flexibility for day-to-day plant operations, while achieving a considerable savings compared to the construction of a second treatment plant. KUB will invest approximately $120 million in various redundant facilities at its existing MBW Treatment Plant over the next 11 years. This cost is significantly less than the estimated $250 million it would cost to construct a second water plant with 40 MGD treatment capacity. The deployment will be funded by debt and incremental rate increases beginning fiscal year 2018. In April 2015, KUB management presented a modified long-term funding plan for the Water Division to the KUB Board of Commissioners that accommodates the projected level of capital investment. The water rate increases previously adopted by the Board for July 2015 and July 2016, respectively, were not modified.

KUB constructed a new Low Service Pump Station (LSPS) in May 2014 to address the reliability of the raw water pumping system at MBW. The system moves raw water from the Tennessee River to the MBW clarification system. The $8.5 million project included a new 70 million gallons per day (MGD) pump station with four submersible pumps, a new electrical building, piping, and controls to help KUB provide safe, high quality water for many years to come.

## THE WATER DISTRIBUTION SYSTEM

KUB's water distribution system territory covers 188 square miles. The system includes 24 pump stations, 28 storage facilities, and 1,411 miles of water service main.

In April 2007, KUB launched a new infrastructure management program for its water distribution system called Century II, which began as a phased-in increase in the level of water main replacement over several years. In early 2009, due to the impact of the economic recession on the community and KUB's customers, KUB temporarily deferred its Century II programs, but maintained its historical level of capital investment in the water system.

In April 2011, management provided an updated assessment on the condition of the water system to the KUB Board, including a recommendation to resume the Century II water program. In September 2011, the Board adopted a resolution which endorsed the Century II water program and a ten-year funding plan, which included a combination of debt issues and annual rate increases. This same Board resolution adopted the initial three water rate increases, which were effective January 2012, January 2013, and January 2014.

The water distribution system is an aging system, with approximately 39 percent of the system consisting of older pipe types, including galvanized, cast iron, and cement-lined water main. Older pipe, particularly galvanized main, accounts for approximately 80 percent of annual water main breaks. As a result of the aging pipe system, the system's water loss ratio has risen steadily over the last 20 years to the point where the system loses approximately 30 percent of the water input into the system from the water plant.

Ten years of funding for the Century II water program will provide for the removal of all galvanized water main by 2020, and the removal of approximately 50 miles of cast iron pipe. At the end of ten years, the water system will look dramatically different with approximately two-thirds of the system consisting of newer pipe types.

Over the last three fiscal years, KUB has invested approximately $66.5 million in its water system infrastructure and is on track to achieve its target Century II program goals for the ten-year plan endorsed by the Board in 2011.

In June 2014, the Board approved the next phase of rate increases to support the Century II water program. The three rate increases were effective July 2014, July 2015 and July 2016. The July 2014 and July 2015 rate increases provided an additional $3.6 million and $2 million, respectively, of additional annual water system revenue, while the 2016 rates increase will provide an additional $2 million in annual revenue.

## GRID MODERNIZATION

In fiscal year 2015, KUB concluded the smart grid pilot project, of which a portion of the project was funded by the United States Department of Energy Smart Grid Investment Grant (SGIG). This grant was received by KUB in 2009 as part of the American Reinvestment and Recovery Act (ARRA). Based upon the success of that pilot, KUB formed a plan to move forward with a Century II Grid Modernization effort which includes advanced metering for all KUB customers, a telecommunication system linking critical KUB infrastructure, and an increased investment in automation technology to help operate KUB's energy and water distribution systems. Over the course of the next ten years KUB plans to spend $108 million dollars in this effort, of which the Division's share is $24.1 million.

In April 2016, KUB management presented the fiscal year 2017 budget to the KUB Board of Commissioners that accommodates the projected level of capital investment for the fiscal year. In July 2016, the four-year deployment of advanced meters began. The deployment is funded in large part by debt issues and incremental rate increases.

## PENSION PLAN

### Description of Plan

The Knoxville Utilities Board Pension Plan (the Plan) is a governmental plan as defined by the Employee Retirement Income Security Act of 1974 ("ERISA" or the "Act"), is not subject to any of the provisions of the Act, and was revised January 1, 2014 to include all prior approved amendments. The Plan is a single-employer contributory, defined benefit pension plan established by Knoxville Utilities Board ("KUB") Resolution No. 980 dated February 18, 1999, effective July 1, 1999, as authorized by the Charter of the City of Knoxville §1107(J). The Plan is designed to provide retirement, disability and death benefits to KUB employees. KUB administers the Plan through an Administrative Committee consisting of seven KUB employees that are appointed by KUB's President and CEO. Any amendments to the Plan involving costs not approved in the operating budget must be adopted by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Plan may be approved by KUB's President and CEO upon 60 days notification to the KUB Audit and Finance Committee. The Plan issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017. For purposes of this disclosure, presentation is on a consolidated basis unless division's share is specified.

Effective January 1, 2011, KUB closed the Plan such that persons employed or re-employed by KUB on or after January 1, 2011, are not eligible to participate, but that eligible employees hired prior to January 1, 2011, who have not separated from service, shall continue as Participants and to accrue benefits under the Plan.

Participants in the Plan consisted of the following as of December 31:

| | 2015 | 2014 |
|---|---|---|
| Inactive plan members: | | |
| Terminated vested participants | 39 | 40 |
| Retirees and beneficiaries | 628 | 627 |
| Active plan members | 692 | 725 |
| Total | 1,359 | 1,392 |

**Retirement Benefits**

The Plan provides three benefit arrangements for KUB participants, retirees, and beneficiaries.

The Plan provides pension benefits through the Career Equity Program ("CEP") for eligible employees hired on or after January 1, 1999, and for eligible former "City System Plan A" participants who elected CEP coverage as of July 1, 1999. The guaranteed pension benefit payable to a participant who has completed five or more years of service (or reached the normal retirement date, if earlier) upon termination of KUB employment shall be a lump sum equal to the participant's average compensation times their benefit percentage, as defined in the Plan document, or an annuity may be chosen by the participant.

In addition, the Plan provided retirement benefits through "Plan A" for former City System Plan A participants who elected not to participate in the CEP. Plan A is a closed plan and is not available to KUB employees hired after July 1, 1999. Plan A provides for early retirement benefits with 25 years of service and normal retirement benefits at age 62 or later. Benefits provided to Plan A participants include several different forms of monthly annuity payments.

The Plan also provides retirement benefits through "Plan B" for former "City System Plan B" participants. Plan B is a closed plan providing benefits to participants not covered by Social Security. Benefits provided to Plan B participants include several different forms of monthly annuity payments available to participants.

Effective January 1, 2012, KUB began to provide for additional monthly supplements, which will not be subject to cost of living adjustments, to certain former employees and surviving dependents of former employees who are eligible for and have elected coverage under the KUB retiree medical plan and are eligible for Medicare. This was done to address the loss of drug coverage under the KUB retiree medical plan and to assist such individuals in obtaining prescription drug coverage under Medicare Part D.

**Contributions**

Participation in Plan A requires employee contributions of 3 percent of the first $4,800 of annual earnings and 5 percent of annual earnings in excess of $4,800. Plan B participants may not make contributions to the Plan. KUB contributions are determined by the enrolled actuary of the Plan and equal the amount necessary to provide the benefits under the Plan determined by the application of accepted actuarial methods and assumptions. The method of funding shall be consistent with Plan objectives.

**Plan Funding**

KUB maintains a Funding Policy for the Plan in accordance with Tennessee State Law. The primary goal of the Policy is to document the method KUB has adopted to provide assurance that future KUB and employee contributions and current Plan assets will be sufficient to fund all benefits expected to be paid to current active, inactive and retired Plan participants and their beneficiaries. Per the Funding Policy, KUB fully funds its annual Actuarially Determined Contribution.

**Investments**

The Plan’s investments are held by State Street Bank and Trust Company (the “Trustee”). The Plan's policy in regard to the allocation of invested assets is established by the Investment Committee and approved by the KUB Board of Commissioners and may only be amended by the KUB Board of Commissioners. It is the policy of the Investment Committee to pursue an investment strategy that reduces risk through the prudent diversification of the portfolio across a broad selection of distinct asset classes. The following was the Plan's adopted asset allocation policy as of December 31, 2015:

| Asset Class | Target Allocation |
|---|---|
| Domestic equity – large cap | 20% - 50% |
| Domestic equity – mid cap | 0% - 15% |
| Domestic equity – small cap | 0% - 15% |
| Domestic equity - convertible securities | 0% - 10% |
| Non-U.S. equity | 0% - 20% |
| Real estate equity | 0% - 10% |
| Fixed income – aggregate bonds | 5% - 25% |
| Fixed income – long-term bonds | 10% - 25% |
| Cash and deposits | 0% - 5% |

Contributions of $5,669,380 and $6,314,399 for 2014 and 2013, respectively, were made during KUB’s fiscal years ending June 30, 2016 and 2015, respectively. Of these amounts, $737,019 and $820,872 are attributable to the Water Division. The contribution was determined as part of the January 1, 2014 valuation using the Individual Entry Age Normal funding method. The objective under this method is to fund each participant’s benefits under the Plan as payments which are level as a percentage of salary, starting on the original participation date (employment date) and continuing until the assumed retirement, termination, disability or death. The actuarial valuation for the Plan year ending December 31, 2015 resulted in an actuarially determined contribution of

$4,816,913 for the fiscal year ending June 30, 2017, based on the Plan's current funding policy. The Water Division's portion of this contribution is $626,199.

Subsequent to June 30, 2016, the actuarial valuation for the Plan year ending December 31, 2016 was completed. The actuarial valuation resulted in an actuarially determined contribution of $3,756,283 for the fiscal year ending June 30, 2018, based on the Plan's current funding policy. The Water Division's portion of this contribution is $488,317. For the Plan year ending December 31, 2016, the Plan's actuarial funded ratio was 103.04 percent.

The actuarial valuations for the Plan years ending December 31, 2015 and 2016, which determine the actuarially determined contribution for future fiscal years ending June 30, 2017 and 2018, have not been audited.

**Implementation of GASB 68**

In fiscal year 2015, KUB adopted GASB Statement No. 68, Accounting and Financial Reporting for Pensions – an amendment of GASB Statement No. 27("GASB 68"), which requires measurement of the net pension liability as total pension liability less the amount of the Plan's fiduciary net position. The amounts reported as of June 30 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2016 and 2015 will be based on the December 31, 2015 and 2014 measurement date, respectively. The Division's share of the net pension liability at June 30, 2016 is $655,221 and the net pension asset at June 30, 2015 is $782,812.

GASB 68 requires certain disclosures related to the net pension liability of the Plan as disclosed below:

| | | **2015** | | **2014** |
|---|---|---|---|---|
| Total pension liability | $ | 204,502,350 | $ | 202,773,764 |
| Plan fiduciary net position | | 199,462,190 | | (208,795,394) |
| Plan's net pension liability (asset) | $ | 5,040,160 | $ | (6,021,630) |
| | | | | |
| Plan fiduciary net position as a percentage of the total pension liability | | 97.54% | | 102.97% |

*[balance of page left blank]*

Changes in Net Pension Liability are as follows:

| | Total Pension Liability (a) | Increase (Decrease) Plan Fiduciary Net Position (b) | Net Pension Liability (a) - (b) |
|---|---|---|---|
| Balances at December 31, 2014 | $ 202,773,764 | $ 208,795,394 | $ (6,021,630) |
| Changes for the year: | | | |
| Service cost | 4,157,062 | - | 4,157,062 |
| Interest | 14,812,784 | - | 14,812,784 |
| Differences between Expected and Actual Experience | (1,890,334) | - | (1,890,334) |
| Changes of Assumptions | - | - | - |
| Contributions - employer | - | 5,991,887 | (5,991,887) |
| Contributions - rollovers | - | 482,060 | (482,060) |
| Contributions - member | - | 5,486 | (5,486) |
| Net investment income | - | (64,551) | 64,551 |
| Benefit payments | (15,350,926) | (15,350,926) | - |
| Administrative expense | - | (397,160) | 397,160 |
| Net changes | 1,728,586 | (9,333,204) | 11,061,790 |
| Balances at December 31, 2015 | $ 204,502,350 | $ 199,462,190 | $ 5,040,160 |

*Actuarial Assumptions.* The total pension liability was determined by an actuarial valuation as of December 31, 2015 and 2014, using the following actuarial assumptions, applied to all periods included in the measurement:

| | |
|---|---|
| Actuarial cost method: | Individual entry age |
| Asset valuation method: | 5-year smoothed market |
| Amortization method: | Level dollar closed period with 28 years remaining as of January 1, 2013 and 27 years remaining as of January 1, 2014 |
| Discount rate: | 8% at January 1, 2013 and 7.5% at January 1, 2014 |
| Salary increases: | From 2.58% to 7.92% for January 1, 2013 and from 2.80% to 5.15% for January 1, 2014, based on years of service |
| Mortality: | Sex distinct RP-2000 Combined Mortality projected to 2018 using Scale AA for the January 1, 2013 valuation. Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA for the January 1, 2014 valuation |
| Inflation | 2.8 percent |

The actuarial assumptions used in the December 31, 2015 valuation were based on the results of an actuarial experience study for the period January 1, 2009 through December 31, 2013.

The long-term expected rate of return on Plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the Plan's target asset allocation as of December 31, 2015 and 2014 are summarized in the following table. The real rate of return reported for fixed income is for aggregate fixed income. The Plan has both aggregate and long duration fixed income.

| | Long Term Expected<br>Real Rate of Return | |
|---|---|---|
| **Asset Class** | **2015** | **2014** |
| Domestic equity | 7.2% | 6.0% |
| Non-U.S. equity | 7.4% | 7.0% |
| Real estate equity | 6.5% | 5.7% |
| Fixed income | 3.7% | 1.8% |
| Cash and deposits | 2.6% | 0.5% |

*Discount rate.* The discount rate used to measure the total pension liability was 7.5 percent as of January 1, 2015 and 2014. The projection of cash flows used to determine the discount rate assumed that participant contributions will be made at the current contribution rate and that KUB contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

*Sensitivity of the net pension liability to changes in the discount rate.* The following presents the net pension liability of the Plan as of December 31, 2015, calculated using the discount rate of 7.5 percent, as well as what the Plan's net pension liability would be if it were calculated using a discount rate that is one percent lower (6.5 percent) or one percent higher (8.5 percent) than the current rate:

| | 1% Decrease (6.5%) | Current Discount Rate (7.5%) | 1% Increase (8.5%) |
|---|---|---|---|
| Plan's net pension liability | $ 17,128,897 | $ 5,040,160 | $ (5,963,331) |

## Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the year ended June 30, 2015, KUB recognized pension expense of $2,749,905 (Division's share $357,488).

The impact of experience gains or losses and assumption changes on the Total Pension Liability are recognized in expense over the average expected remaining service life of all active and inactive members. As of the measurement date, this recognition period was 3.72 years. However, there were no experience gains or losses, and there were no assumption changes during the measurement year.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment gain of $7,972,887. $1,594,577 of that gain was recognized in the current year and an identical amount will be recognized in each of the next four years, resulting in a deferred inflow of resources of $6,378,310 (Division's share $829,180). The table below summarizes the current balances of deferred outflows and deferred inflows of resources along with the net recognition over the next five years. In addition, KUB recorded a deferred outflow of resources of $3,157,199 (Division's share $410,436) at June 30, 2015 for employer contributions made between December 31, 2014 and June 30, 2015.

| | Deferred Outflows of Resources | Deferred Inflows of Resources |
|---|---|---|
| Differences between expected and actual experience | $ - | $ - |
| Changes in assumptions | - | - |
| Net difference between projected and actual earnings on pension plan investments | - | 6,378,310 |
| Contributions subsequent to measurement date | 3,157,199 | - |
| Total | $ 3,157,199 | $ 6,378,310 |

For the year ended June 30, 2016, KUB recognized pension expense of $4,665,035 (Division's Share $606,455).

The impact of experience gains or losses and assumption changes on the Total Pension Liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2014, this average was 5.00 years. During the measurement year, there were no assumption or benefit changes. There was an experience gain of $1,890,334 with $378,067 of that recognized in the current year and in each of the next four years.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment loss of $15,382,915. $3,076,583 of that loss was recognized in the current year and an identical amount will be recognized in each of the next four years. Unrecognized investment gains from prior periods were $6,378,310 of which $1,594,577 was recognized as a reduction in pension expense in the current year.

Experience gains this year created a deferred inflow of resources of $1,512,267 (Division's share $196,595). The combination of unrecognized investment losses this year along with unrecognized net investment gains from prior periods results in a deferred outflow of resources as of December 31, 2015 of $7,522,599 (Division's share $977,938). The table below summarizes the current balances of deferred outflows and deferred inflows of resources along with the net recognition over future years. In addition, KUB recorded a deferred outflow of resources of $2,834,692 (Division's share $368,510) at June 30, 2016 for employer contributions made between December 31, 2015 and June 30, 2016.

|  | Deferred Outflows of Resources | Deferred Inflows of Resources |
|---|---|---|
| Differences between expected and actual experience | $ - | $ 1,512,267 |
| Changes in assumptions | - | - |
| Net difference between projected and actual earnings on pension plan investments | 7,522,599 | - |
| Contributions subsequent to measurement date | 2,834,692 | - |
| Total | $ 10,357,291 | $ 1,512,267 |

Amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:

| Year ended June 30: |  |
|---|---|
| 2017 | $ 3,938,630 |
| 2018 | 1,103,939 |
| 2019 | 1,103,938 |
| 2020 | 2,698,517 |
| Thereafter | - |

## OTHER POST-EMPLOYMENT BENEFITS (OPEB)

The Governmental Accounting Standards Board (GASB) established standards for the measurement, recognition, and reporting of other post-employment benefits (OPEB). OPEB includes post-employment benefits other than pension, which, for KUB, is presently limited to post-employment health care. GASB Statement No. 45 (Statement No. 45) requires the recognition of the accrued OPEB liability for the respective year, plus the disclosure of the total unfunded liability.

KUB currently provides post-employment health care benefits to 585 former employees and 593 covered dependents. The cost of coverage is shared with retirees and beneficiaries. KUB recognizes its share of the cost of post-employment health care benefits as an expense as claims are paid.

KUB amended its Group Health Plan in 1999, eliminating post-employment health care benefits for all employees hired on or after July 1, 1999. As of June 30, 2016, 356 active employees were eligible for individual and dependent coverage at separation. To qualify, the employee must meet the Rule of 80 (age plus years of service) with a minimum of 20 years of service, and be enrolled in medical coverage on their last day.

In May 2006, the State of Tennessee adopted Tennessee Code Annotated, Title 8, Chapter 50, Part 12 authorizing governmental entities to establish Trusts for the purpose of pre-funding their respective OPEB liabilities.

Although Statement No. 45 does not require pre-funding of the liability, KUB has determined that it is in the long-term economic interest of KUB and its ratepayers to establish a Trust to pre-fund KUB's OPEB liability.

Knoxville Utilities Board Other Post-Employment Benefits Trust (the "Trust") is a single-employer Other Post-Employment Benefits Plan established by the Knoxville Utilities Board (KUB) Board of Commissioners through Resolution No. 1168, as amended, dated October 18, 2007. The applicable documentation was submitted to the State Funding Board and, in December 2007, the State Funding Board approved the Trust. The Trust was also approved by the Internal Revenue Service in June 2008. KUB administers the Trust through a Board of Trustees consisting of seven KUB employees that are appointed by KUB's President and CEO. Any amendments to the Trust involving costs not approved in the operating budget must be approved by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Trust may be approved by KUB's President and CEO upon 60 days notification to the KUB Audit and Finance Committee. The investment of all deposits to the Trust is governed by an Investment Policy, which was adopted by the KUB Board and approved by the State Funding Board.

KUB makes annual contributions to the Trust at an actuarially determined rate. Based on the date of retirement, certain retired plan members are required to contribute specified amounts monthly to maintain health insurance. Those who retired prior to July 1983 have no required monthly premiums for themselves or dependents. The retirees, or their surviving dependents, who retired between August 1983 and January 1998 are required to pay $250 per month for pre-Medicare family health insurance. For individuals who retired after January 1998, the required monthly premium for pre-Medicare health insurance is $250 for single coverage and $500 for family coverage. There is currently no premium for Medicare eligible retirees or dependents.

An actuarial valuation of KUB's Postretirement Benefit Plan was performed for the Trust as of January 1, 2014 for fiscal year June 30, 2015 and January 1, 2015 for fiscal year June 30, 2016. The following table presents the OPEB cost for the year, the amount contributed to the Trust, and changes in the net OPEB obligation for fiscal year ending June 30:

| | | **2016** | **2015** |
|---|---|---|---|
| **a)** | Net OPEB Obligation/(Asset) at beginning of fiscal year | $ (174,410) | $ (177,322) |
| **b)** | Annual Required Contribution (ARC) | 953,221 | 3,497,372 |
| **c)** | Interest on Net OPEB Obligation/(Asset) | (13,081) | (14,186) |
| **d)** | Adjustment to ARC | (16,427) | (17,098) |
| **e)** | Annual OPEB Cost **(b+c-d)** | 956,567 | 3,500,284 |
| **f)** | Employer Contributions | 953,221 | 3,497,372 |
| **g)** | Net OPEB Obligation/(Asset) at end of fiscal year **(a+e-f)** | $ (171,064) | $ (174,410) |

KUB's annual OPEB cost, the percentage of annual OPEB cost contributed to the Trust, and the net OPEB obligation for fiscal year 2016 and the two preceding years were as follows:

*[balance of page left blank]*

### Schedule of Employer Contributions

| Actuarial Valuation Date | Employer Fiscal Year | Annual Required Contribution | Fiscal Year Actual Contribution | Percentage Contributed | Net OPEB Obligation |
|---|---|---|---|---|---|
| 1/1/2012 | 6/30/2014 | 3,327,412 | 4,057,091 | 121.93% | (177,322) |
| 1/1/2013 | 6/30/2015 | 3,497,372 | 3,497,372 | 100.00% | (174,410) |
| 1/1/2014 | 6/30/2016 | 953,221 | 953,221 | 100.00% | (171,064) |

Total contributions to the OPEB Trust for the fiscal year ended June 30, 2016 were $953,221 (Division's share $123,919). The contribution to the Trust was consistent with the annual required contribution, as determined by the Postretirement Benefit Plan's actuarial valuation as of January 1, 2014, which was $953,221 (Division's share $123,919). As of June 30, 2016, the employer's OPEB obligation has been exceeded by $171,064 (Division's share $22,238).

The annual required contribution for the fiscal year ending June 30, 2017, as determined by the Plan's actuarial valuation as of January 1, 2015 is $620,015 (Division's share $80,602).

The actuarial valuation for the Plan as of January 1, 2016 has been completed. The valuation determined that the Plan's actuarial accrued liability was $45,118,624 (Division's share $5,865,421). The actuarial value of the Plan's assets was $48,510,796 (Division's share $6,306,403). As a result, the Plan's unfunded actuarial accrued liability was ($3,392,172) (Division's share ($440,982)). The Plan's actuarial funded ratio was 108 percent. Due to the future implementation of GASB 75, the contributions made for fiscal year ending June 30, 2018 will be the actuarially determined contribution instead of the annual required contribution and the actuarial cost method used to determine the contributions will change from the projected unit credit cost method to the entry age normal cost method. The actuarially determined contribution for fiscal year ending June 30, 2018 will be zero. See Required Supplementary Information for OPEB Schedule of Funding Progress.

The actuarial valuations dated January 1, 2015 and 2016, which determine the annual required contribution and actuarially determined contribution for future fiscal years ending June 30, 2017 and 2018, have not been audited.

Actuarial valuations involve estimates of the value of reported amounts and assumptions about the probability of events far into the future, and actuarially determined amounts are subject to continual revision as actual results are compared to past expectations and new estimates are made about the future.

The required schedule of funding progress immediately following the notes to the financial statements presents multi-year trend information about whether the actuarial value of Trust assets is increasing or decreasing over time relative to the actuarial accrued liability for benefits.

Calculations are based on the benefits provided under the terms of the substantive plan in effect at the time of each valuation and on the pattern of sharing of costs between the employer and plan members to that point.

Actuarial calculations reflect a long-term perspective. Consistent with that perspective, actuarial methods and assumptions used include techniques that are designed to reduce short-term volatility in actuarial accrued liabilities and the actuarial value of assets.

Identification of actuarial methods and significant assumptions used to determine the annual required contribution for the fiscal year ending June 30, 2016:

| | |
|---|---|
| I. Actuarial cost method | Projected unit credit cost method |
| II. Actuarial value of assets | Smoothed market value with phase-in method using a smoothing period of 5 years |
| III. Investment return | 7.5%, based on the expected portfolio return |
| Projected salary increases | N/A |
| Healthcare cost Trend: | |
| Medicare | 2014 - 2030+, ranging from 4.5% to 7.45% |
| Non-Medicare | 2014 - 2030+, ranging from 4.5% to 8.75% |
| IV. Amortization method | Level dollar closed (30-year) |
| Remaining amortization period | 22 years |

The Trust issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017.

## FISCAL YEAR 2017 FINANCIAL UPDATE

For the five months ending November 30, 2016, KUB's Water Division had earnings of $4.4 million, representing an increase of $0.7 million from the previous fiscal year. Water sales volumes were up 9.4 percent compared to last fiscal year primarily due to a 31.1 percent decrease in precipitation compared to the prior fiscal year.

The Water Division sold $25 million in revenue bonds in July 2016 for the purpose of funding water system capital improvements. The Water Division sold $20.9 million in revenue refunding bonds in July 2016 for the purpose of refinancing existing debt at lower interest rates. As of November 30, 2016, the Water Division had $170 million in outstanding debt, representing a debt to capitalization ratio of 50.4 percent. The Water Division's current maximum debt service coverage ratio is projected to be 2.08.

Capital investment in water system infrastructure is projected to be approximately $28.1 million for Fiscal Year 2017, reflecting KUB's continued commitment to the timely replacement of aging water pipe.

*[balance of page left blank]*

## WATER RATES

The current rate schedules of the Water Division are as follows:

## *WATER GENERAL SERVICE - RESIDENTIAL*

### Availability

Service under this rate schedule shall be available only to residential customers served individually through a separate meter.

An existing customer or applicant for service under this schedule may be required to execute a contract specifying, among other things, a minimum bill and minimum term for service under this schedule.

### Rate

The Water Service Charge shall be calculated using the applicable rate tables provided below, based on the customer's meter size and monthly water usage.

In the event more than one meter is utilized to determine billed consumption, multiple customer charges may apply. Charges will apply without regard to ownership of the meter(s).

### I. Inside City Rate

For water furnished to premises entirely within the corporate limits of the City of Knoxville:

Customer Charge

| | |
|---|---|
| 5/8" meter | $15.00 |
| 1" meter | $29.10 |
| 1 ½" meter | $41.00 |
| 2" meter | $57.00 |

For meters greater than 2" the Customer Charges listed in the Water Nonresidential schedule shall be utilized.

Commodity Charge

| | |
|---|---|
| First | 2 Ccf at $0.25 per Ccf |
| Over | 2 Ccf at $2.65 per Ccf |

*[balance of page left blank]*

### II. Outside City Rate

For water furnished to premises upon which any water faucet or other outlet is outside the corporate limits of the City of Knoxville:

Customer Charge

| | |
|---|---|
| 5/8" meter | $16.40 |
| 1" meter | $33.40 |
| 1 ½" meter | $47.40 |
| 2" meter | $66.40 |

For meters greater than 2" the Customer Charges listed in the Water Nonresidential schedule shall be utilized.

Commodity Charge

| | |
|---|---|
| First | 2 Ccf at $0.30 per Ccf |
| Over | 2 Ccf at $3.20 per Ccf |

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

## *WATER GENERAL SERVICE – NONRESIDENTIAL*

### Availability

Service under this rate schedule shall be available to any commercial or industrial customer.

An existing customer or applicant for service under this schedule may be required to execute a contract specifying, among other things, a minimum bill and minimum term for service under this schedule.

### Rate

The Water Service Charge shall be calculated using the applicable rate tables provided below, based on the customer's meter size and monthly water usage.

In the event more than one meter is utilized to determine billed consumption, multiple customer charges may apply. Charges will apply without regard to ownership of the meter(s).

*[balance of page left blank]*

## I. Inside City / Industrial Park Rate

For water furnished to premises entirely within the corporate limits of the City of Knoxville or within the boundaries of an area recognized as an industrial park by the Tennessee Department of Economic and Community Development:

Customer Charge

| | |
|---|---|
| 5/8” meter | $15.00 |
| 1” meter | $29.10 |
| 1 ½” meter | $41.00 |
| 2” meter | $57.00 |
| 3” meter | $133.00 |
| 4” meter | $221.00 |
| 6” meter | $483.00 |
| 8” meter | $849.00 |
| 10” meter | $1,294.00 |
| 12” meter | $1,914.00 |

Commodity Charge

| | |
|---|---|
| First | 2 Ccf at $ 1.70 per Ccf |
| Next | 8 Ccf at $ 3.65 per Ccf |
| Next | 90 Ccf at $ 4.50 per Ccf |
| Next | 300 Ccf at $ 3.25 per Ccf |
| Next | 4,600 Ccf at $ 2.10 per Ccf |
| Over | 5,000 Ccf at $ 1.00 per Ccf |

## II. Outside – City Rate

For water furnished to premises upon which any water faucet or other outlet is outside the corporate limits of the City of Knoxville, excluding premises within the boundaries of an area recognized as an industrial park by the Tennessee Department of Economic and Community Development:

Customer Charge

| | |
|---|---|
| 5/8” meter | $16.40 |
| 1” meter | $33.40 |
| 1 ½" meter | $47.40 |
| 2” meter | $66.40 |
| 3” meter | $159.00 |
| 4” meter | $266.00 |
| 6” meter | $580.00 |
| 8” meter | $1,019.00 |
| 10” meter | $1,551.00 |
| 12” meter | $2,298.00 |

Commodity Charge

| | |
|---|---|
| First | 2 Ccf at $2.00 per Ccf |
| Next | 8 Ccf at $4.25 per Ccf |
| Next | 90 Ccf at $5.40 per Ccf |
| Next | 300 Ccf at $3.85 per Ccf |
| Next | 4,600 Ccf at $2.50 per Ccf |
| Over | 5,000 Ccf at $1.20 per Ccf |

**Rules and Regulations**

Service is subject to Rules and Regulations of KUB.

## *Schedule B – PRIVATE FIRE SERVICE*

### Availability

Under this schedule, KUB provides water supply to privately owned automatic sprinklers or hose outlets. Such service is available to any residential, commercial, or industrial customer.

### Rate

The private Fire Service Charge shall be calculated using the table below based on the customer's fire line connections.

Monthly Service Charge per Connection

| | |
|---|---|
| Connection less than 4" | $ 20.75 |
| 4" Connection | $ 41.50 |
| 6" Connection | $101.00 |
| 8" Connection | $176.00 |
| 10" Connection | $273.00 |
| 12" Connection and greater | $393.00 |

These service charges shall be in addition to the charge for any water use through fire line connections. The amount of unmetered water so used, as determined by KUB, shall be paid for at KUB's applicable rate schedules.

No charge under this Schedule B shall be made where the water supply to private fire protection facilities is through one or more metered connection(s) for which payment is made under the Water General Service – Nonresidential Rate Schedule.

No credit for charges under this rate schedule shall be allowed against the Water General Service – Nonresidential Rate Schedule charge for water supplied through a fire line to one or more metered connection(s) where the fire line serves as a connecting line between the metered connection(s) and KUB's mains.

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

## *SCHEDULE C – UNMETERED GOVERNMENT SERVICE*

For water used from KUB's mains with KUB's permission by any department of a governmental entity through unmetered fire hydrants for purposes other than for public fire service:

### I. Inside – City Rate

The total amount of water used monthly by each department of a governmental entity for such purposes through a fire hydrant within the corporate limits of the City of Knoxville shall be billed to each such department at the Inside City rates set forth in the Water General Service – Nonresidential Rate Schedule.

### II. Outside – City Rate

The total amount of water used monthly by each department of a governmental entity for such purposes through a fire hydrant outside the corporate limits of the City of Knoxville shall be billed to each such department at the Outside City rates set forth in the Water General Service – Nonresidential Rate Schedule.

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

## *SCHEDULE D – PUBLIC FIRE PROTECTION SERVICE*

### Availability

Service under this schedule shall be available only to a governmental entity that undertakes to provide public fire protection service for an area that contains at least four square miles. KUB reserves the right to require any applicant for service under this schedule to execute a contract specifying, among other things, a minimum bill and minimum term for service.

### Rate

For public fire protection service rendered, the governmental entity shall pay KUB a fire protection service charge at the rate of $433.97 per year for each KUB owned public fire hydrant located within the jurisdictional boundaries of the governmental entity and within areas provided public fire protection service by such governmental entity. In addition to the fire protection service charge, the governmental entity shall pay for all water used for firefighting at rates set forth in the Water General Service – Nonresidential Rate Schedule.

KUB may contract with other utility providers to supply public fire protection service to an eligible governmental entity in any service area (or portion thereof), where KUB determines it desirable to do so. Charges to a governmental entity for fire protection service provided under such a contract shall be at the same rate specified above, and the hydrants of the utility provider utilized under such a contract shall be deemed to be facilities owned by KUB for the sole purpose of calculating charges under this schedule.

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

## *SCHEDULE E – SALES FOR RESALE*

### Availability

For water purchased on an interruptible basis for resale by a customer that does not use KUB as its sole supplier of water. This service shall be available only on an interruptible basis and only to the extent, in KUB's sole opinion, that such service can be supplied through existing facilities without adversely affecting water service to any other customer of KUB. Nothing contained herein shall prevent KUB from providing water for resale under the Water General Service – Nonresidential Rate Schedule.

### Commodity Charge

$1.40 per 100 Cubic Feet

Any unauthorized usage under this tariff shall be billed at the Outside City rates set forth in the Water General Service – Nonresidential Rate Schedule.

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

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# KNOXVILLE UTILITIES BOARD
## WATER DIVISION
## CAPITALIZATION HISTORY

| Historical | Fiscal Year | Accumulated Earnings | Contributed Capital | Revenue Bonds | Revenue Notes | Total Capitalization | Debt as % of Capitalization |
|---|---|---|---|---|---|---|---|
| | 2012 | $ 147,640,402 | $ - | $ 105,235,000 | $ - | $ 252,875,402 | 41.62% |
| | 2013 | $ 150,633,304 | $ - | $ 101,850,000 | $ - | $ 252,483,304 | 40.34% |
| | 2014 | $ 152,112,627 | $ - | $ 123,385,000 | $ - | $ 275,497,627 | 44.79% |
| | 2015 | $ 156,999,177 | $ - | $ 148,400,000 | $ - | $ 305,399,177 | 48.59% |
| | 2016 | $ 162,993,675 | $ - | $ 143,990,000 | $ - | $ 306,983,675 | 46.90% |

# KNOXVILLE UTILITIES BOARD
# WATER DIVISION
## OPERATING STATISTICS
for the Fiscal Years ending on June 30

| | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|
| **Revenues:** | | | | | |
| General Customers | $ 31,748,184 | $ 32,525,583 | $ 33,627,204 | $ 38,163,045 | $ 40,492,731 |
| Private Fire Protection | 1,284,289 | 1,380,648 | 1,474,850 | 1,675,084 | 1,794,941 |
| Public Fire Protection | 2,751,890 | 2,904,544 | 2,883,976 | 2,892,212 | 3,128,501 |
| Sales to Public Authorities | 416,651 | 349,515 | 345,849 | 466,711 | 557,291 |
| **Total Sales Revenues** | $ 36,201,013 | $ 37,160,290 | $ 38,331,879 | $ 43,197,052 | $ 45,973,464 |
| Other Revenues | $ 1,274,737 | $ 903,238 | $ 1,041,835 | $ 976,138 | $ 1,479,937 |
| **Total Revenues** | $ 37,475,750 | $ 38,063,528 | $ 39,373,714 | $ 44,173,190 | $ 47,453,401 |
| **Water Usage - (000s Gallons*):** | | | | | |
| General Customers | 8,016,089 | 7,739,270 | 7,577,083 | 7,665,155 | 7,650,968 |
| Other | 305,993 | 245,486 | 230,894 | 279,391 | 314,592 |
| **Total** | 8,322,082 | 7,984,756 | 7,807,977 | 7,944,545 | 7,965,560 |
| **Number of Customers:** | | | | | |
| General Customers | 76,610 | 76,858 | 76,914 | 77,118 | 77,515 |
| Private Fire Protection | 1,372 | 1,404 | 1,419 | 1,432 | 1,460 |
| Public Fire Protection | 2 | 2 | 2 | 2 | 2 |
| Other | 1 | 1 | 1 | 1 | 3 |
| **Total** | 77,985 | 78,265 | 78,336 | 78,553 | 78,980 |
| Input to System (000s Gallons) | 12,228,300 | 12,110,030 | 12,120,460 | 11,669,000 | 12,007,400 |
| Source of Supply and Treatment Expense | $ 3,439,473 | $ 2,954,150 | $ 3,355,348 | $ 3,789,101 | $ 4,186,197 |

# KNOXVILLE UTILITIES BOARD
## WATER DIVISION
### CONDENSED STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION
For The Fiscal Years Ending on June 30

| | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|
| **Operating Revenues:** | $ 37,475,750 | $ 38,063,528 | $ 39,373,714 | $ 44,173,190 | $ 47,453,401 |
| **Operation Expenses:** | | | | | |
| Treatment | $ 3,439,473 | $ 2,954,150 | $ 3,355,348 | $ 3,789,101 | $ 4,186,197 |
| Distribution | 11,805,687 | 12,760,266 | 13,635,443 | 13,045,508 | 12,644,428 |
| Customer Service | 1,402,123 | 1,461,949 | 1,517,093 | 1,653,476 | 1,666,099 |
| Administrative and General | 4,542,353 | 4,251,375 | 4,363,596 | 4,206,064 | 4,838,122 |
| Provision for Deprec. & Amortization | 5,768,349 | 6,419,430 | 6,933,752 | 7,794,763 | 9,055,221 |
| Taxes and Tax Equivalents | 2,882,492 | 2,959,900 | 3,041,944 | 3,621,768 | 3,717,163 |
| **Total Operating Expenses** | $ 29,840,477 | $ 30,807,070 | $ 32,847,176 | $ 34,110,680 | $ 36,107,230 |
| **Operating Income** | $ 7,635,273 | $ 7,256,458 | $ 6,526,538 | $ 10,062,510 | $ 11,346,171 |
| **Non-Operating Revenues / Expenses:** | | | | | |
| Contributions in aid of construction | $ 470,062 | $ 703,844 | $ 464,748 | $ 475,386 | $ 895,530 |
| Interest and dividend income | 200,362 | 139,775 | 125,448 | 134,691 | 194,146 |
| Interest expense | (3,947,812) | (4,363,951) | (5,257,923) | (5,421,300) | (5,611,878) |
| Write-down of plant for costs recovered through contributions | (470,062) | (703,844) | (464,748) | (475,386) | (895,530) |
| Other | (106,608) | (96,232) | (72,599) | (22,730) | (235,137) |
| **Total Non-Operating** | $ (3,854,058) | $ (4,320,408) | $ (5,205,074) | $ (5,309,339) | $ (5,652,869) |
| Change in Net Position before | $ 3,781,215 | $ 2,936,050 | $ 1,321,464 | $ 4,753,171 | $ 5,693,302 |
| Capital contribution | 913,066 | 56,852 | 157,859 | 232,696 | 301,196 |
| Change in Net Position | $ 4,694,281 | $ 2,992,902 | $ 1,479,323 | $ 4,985,867 | $ 5,994,498 |
| Net Position, beginning of year | $ 142,946,121 | $ 147,640,402 | $ 150,633,304 | $ 152,112,627 | $ 156,999,177 |
| Adjustment | - | - | - | (99,317) | - |
| **Net Position, end of year** | **$ 147,640,402** | **$ 150,633,304** | **$ 152,112,627** | **$ 156,999,177** | **$ 162,993,675** |

*Source:* The above amounts have been derived from the Annual Audited Financial Statements for the Knoxville Utilities Board, Water Division and the Board's internal financial records and should be read in conjunction therewith.

# KNOXVILLE UTILITIES BOARD
# WATER DIVISION
## OPERATING AND FINANCIAL HISTORY OF THE WATER DIVISION

### OPERATING REVENUE FROM WATER SALES

| Fiscal Year Ended June 30 | Revenue |
|---|---|
| 2007 | $ 30,797,817 |
| 2008 | $ 33,389,396 |
| 2009 | $ 32,891,651 |
| 2010 | $ 33,578,157 |
| 2011 | $ 36,415,692 |
| 2012 | $ 37,475,750 |
| 2013 | $ 38,063,528 |
| 2014 | $ 39,373,714 |
| 2015 | $ 44,173,190 |
| 2016 | $ 47,453,401 |

### WATER SALES IN GALLONS

| Fiscal Year Ended June 30 | Thousand Gallons |
|---|---|
| 2007 | 8,960,463 |
| 2008 | 9,126,574 |
| 2009 | 8,620,503 |
| 2010 | 8,038,778 |
| 2011 | 8,391,634 |
| 2012 | 8,322,082 |
| 2013 | 7,984,756 |
| 2014 | 7,807,977 |
| 2015 | 7,944,545 |
| 2016 | 7,965,560 |

## TEN LARGEST WATER SYSTEM CUSTOMERS - 2016

The ten largest Water System customers, as of June 30, 2016, in order of total sales generated are listed below. Those ten water customers represent 19.76% of the total water sales based on revenue and 21.32% of the total water based on sales volume.

| | Customer | Consumption CCF | Sales Revenue | Percent of Sales Revenue |
|---|---|---|---|---|
| 1. | City of Knoxville | 202,988 | $ 3,851,242 | 8.38% |
| 2. | University of Tennessee | 579,021 | $ 1,898,123 | 4.13% |
| 3. | KCDC | 177,363 | $ 602,891 | 1.31% |
| 4. | Shady Grove Utility District | 407,855 | $ 540,369 | 1.18% |
| 5. | KUB | 245,758 | $ 441,612 | 0.96% |
| 6. | Knox County Schools | 75,286 | $ 431,274 | 0.94% |
| 7. | University Health Systems Inc | 218,117 | $ 380,872 | 0.83% |
| 8. | Rohm & Haas Tennessee Inc | 223,626 | $ 335,323 | 0.73% |
| 9. | Gerdau Ameristeel | 146,306 | $ 325,158 | 0.71% |
| 10. | Public Building Authority | 80,995 | $ 277,157 | 0.60% |
| | **TOTAL** | **2,357,315** | **$ 9,084,021** | **19.76%** |

| | | |
|---|---|---|
| Total Water Sales Revenue | | $45,973,464 |
| Top 10 as Percent of Total Water Sales Revenue | | 19.76% |
| Total Water Sales Volume(000s gal) | 11,057,133 | |
| Top 10 as Percent of Total Water Sales Volume | 21.32% | |

# KNOXVILLE UTILITIES BOARD
## WATER DIVISION
### BONDS OUTSTANDING

The following table shows the outstanding bond indebtedness of the Water Division.

| Amount Issued | Series | Due Date | Interest Rates | Outstanding as of August 05, 2016 (1) |
|---|---|---|---|---|
| $ 8,865,000 | Water System Revenue Refunding Bonds, Series S-2005 | 03-01-27 | Fixed | $ 6,295,000 |
| 25,000,000 | Water System Revenue Bonds, Series T-2007 | 03-01-17 | Fixed | 750,000 |
| 25,000,000 | Water System Revenue Bonds, Series U-2009 | 03-01-19 | Fixed | 2,750,000 |
| 25,000,000 | Water System Revenue Bonds, Series W-2011 | 03-01-40 | Fixed | 22,800,000 |
| 10,050,000 | Water System Revenue Refunding Bonds, Series X-2012 | 03-01-29 | Fixed | 8,665,000 |
| 9,285,000 | Water System Revenue Refunding Bonds, Series Y-2013 | 03-01-30 | Fixed | 8,970,000 |
| 25,000,000 | Water System Revenue Bonds, Series Z-2013 | 03-01-44 | Fixed | 23,675,000 |
| 8,000,000 | Water System Revenue Bonds, Series AA-2014 | 03-01-44 | Fixed | 7,725,000 |
| 23,005,000 | Water System Revenue Refunding Bonds, Series BB-2015 | 03-01-33 | Fixed | 22,835,000 |
| 20,000,000 | Water System Revenue Bonds, Series CC-2015 | 03-01-45 | Fixed | 19,650,000 |
| 25,000,000 | Water System Revenue Bonds, Series DD-2016 (Issued 8-5-2016) | 03-01-46 | Fixed | 25,000,000 |
| 20,875,000 | Water System Revenue Refunding Bonds, Series EE-2016 (Issued 8-5-2016) | 03-01-33 | Fixed | 20,875,000 |
| $ 225,080,000 | **TOTAL DEBT** | | | $ 169,990,000 |
| | | | | |
| $ 5,950,000 | Water System Revenue Refunding Bonds, Series FF-2017 | 03-01-27 | Fixed | $ 5,950,000 |
| (8,865,000) | Less: Bonds Being Refinanced (Series S-2005 Bonds) | | | (5,830,000) |
| $ 222,165,000 | **TOTAL INDEBTEDNESS** | | | $ 170,110,000 |

**NOTES:**

(1) The above figures do not include short-term notes outstanding, if any. For more information, see the notes to the Financial Statements in the FINANCIAL STATEMENTS included herein.

# KNOXVILLE UTILITIES BOARD
## WATER DIVISION
### DEBT SERVICE REQUIREMENTS

| Fiscal | **Outstanding Fiscal Year Debt Service on Bonds - as of August 05, 2016** | | | **Estimated Water System Revenue Refunding Bonds, Series FF-2017** | | | % Principal Repaid on | **Less: Bonds Being Refunded** | | | **TOTAL DEBT SERVICE** (1) | | | % Principal Repaid on |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | Principal | Interest | Total | Principal | Interest (2) | Total | FF-2017 Bonds | Principal | Interest | Total | Principal | Interest | Total | All Debt |
| 2017 | $ 4,835,000 | $ 5,492,232 | $ 10,327,232 | $ - | $ - | $ - | 0.00% | $ - | $ - | $ - | $ 4,835,000 | $ 5,492,232 | $ 10,327,232 | 2.84% |
| 2018 | 5,285,000 | 5,892,196 | 11,177,196 | 560,000 | 121,245 | 681,245 | | (485,000) | (244,271) | (729,271) | 5,360,000 | 5,769,170 | 11,129,170 | |
| 2019 | 5,470,000 | 5,682,046 | 11,152,046 | 545,000 | 129,728 | 674,728 | | (500,000) | (224,871) | (724,871) | 5,515,000 | 5,586,903 | 11,101,903 | |
| 2020 | 5,715,000 | 5,447,996 | 11,162,996 | 555,000 | 120,190 | 675,190 | | (520,000) | (204,871) | (724,871) | 5,750,000 | 5,363,315 | 11,113,315 | |
| 2021 | 5,935,000 | 5,230,196 | 11,165,196 | 570,000 | 109,645 | 679,645 | 37.48% | (545,000) | (183,421) | (728,421) | 5,960,000 | 5,156,420 | 11,116,420 | 16.12% |
| 2022 | 6,220,000 | 5,001,015 | 11,221,015 | 585,000 | 97,675 | 682,675 | | (570,000) | (160,940) | (730,940) | 6,235,000 | 4,937,750 | 11,172,750 | |
| 2023 | 6,450,000 | 4,745,103 | 11,195,103 | 595,000 | 84,220 | 679,220 | | (590,000) | (137,428) | (727,428) | 6,455,000 | 4,691,895 | 11,146,895 | |
| 2024 | 6,685,000 | 4,482,428 | 11,167,428 | 610,000 | 69,940 | 679,940 | | (615,000) | (112,353) | (727,353) | 6,680,000 | 4,440,015 | 11,120,015 | |
| 2025 | 6,940,000 | 4,254,540 | 11,194,540 | 625,000 | 54,080 | 679,080 | | (640,000) | (86,215) | (726,215) | 6,925,000 | 4,222,405 | 11,147,405 | |
| 2026 | 7,170,000 | 4,050,158 | 11,220,158 | 640,000 | 37,205 | 677,205 | 88.82% | (665,000) | (58,695) | (723,695) | 7,145,000 | 4,028,668 | 11,173,668 | 35.78% |
| 2027 | 7,395,000 | 3,829,656 | 11,224,656 | 665,000 | 19,285 | 684,285 | | (700,000) | (30,100) | (730,100) | 7,360,000 | 3,818,841 | 11,178,841 | |
| 2028 | 7,660,000 | 3,587,981 | 11,247,981 | - | - | - | | - | - | - | 7,660,000 | 3,587,981 | 11,247,981 | |
| 2029 | 7,900,000 | 3,349,581 | 11,249,581 | - | - | - | | - | - | - | 7,900,000 | 3,349,581 | 11,249,581 | |
| 2030 | 8,220,000 | 3,100,338 | 11,320,338 | - | - | - | | - | - | - | 8,220,000 | 3,100,338 | 11,320,338 | |
| 2031 | 7,525,000 | 2,853,913 | 10,378,913 | - | - | - | 100.00% | - | - | - | 7,525,000 | 2,853,913 | 10,378,913 | 58.51% |
| 2032 | 7,675,000 | 2,624,956 | 10,299,956 | - | - | - | | - | - | - | 7,675,000 | 2,624,956 | 10,299,956 | |
| 2033 | 7,960,000 | 2,390,019 | 10,350,019 | - | - | - | | - | - | - | 7,960,000 | 2,390,019 | 10,350,019 | |
| 2034 | 4,850,000 | 2,132,656 | 6,982,656 | - | - | - | | - | - | - | 4,850,000 | 2,132,656 | 6,982,656 | |
| 2035 | 4,950,000 | 1,944,906 | 6,894,906 | - | - | - | | - | - | - | 4,950,000 | 1,944,906 | 6,894,906 | |
| 2036 | 5,050,000 | 1,753,031 | 6,803,031 | - | - | - | 100.00% | - | - | - | 5,050,000 | 1,753,031 | 6,803,031 | 76.43% |
| 2037 | 5,150,000 | 1,558,813 | 6,708,813 | - | - | - | | - | - | - | 5,150,000 | 1,558,813 | 6,708,813 | |
| 2038 | 5,250,000 | 1,360,906 | 6,610,906 | - | - | - | | - | - | - | 5,250,000 | 1,360,906 | 6,610,906 | |
| 2039 | 5,375,000 | 1,159,031 | 6,534,031 | - | - | - | | - | - | - | 5,375,000 | 1,159,031 | 6,534,031 | |
| 2040 | 5,475,000 | 945,156 | 6,420,156 | - | - | - | | - | - | - | 5,475,000 | 945,156 | 6,420,156 | |
| 2041 | 3,625,000 | 727,031 | 4,352,031 | - | - | - | 100.00% | - | - | - | 3,625,000 | 727,031 | 4,352,031 | 91.05% |
| 2042 | 3,750,000 | 582,531 | 4,332,531 | - | - | - | | - | - | - | 3,750,000 | 582,531 | 4,332,531 | |
| 2043 | 3,875,000 | 433,125 | 4,308,125 | - | - | - | | - | - | - | 3,875,000 | 433,125 | 4,308,125 | |
| 2044 | 4,025,000 | 278,563 | 4,303,563 | - | - | - | | - | - | - | 4,025,000 | 278,563 | 4,303,563 | |
| 2045 | 2,300,000 | 118,000 | 2,418,000 | - | - | - | | - | - | - | 2,300,000 | 118,000 | 2,418,000 | |
| 2046 | 1,275,000 | 38,250 | 1,313,250 | - | - | - | 100.00% | - | - | - | 1,275,000 | 38,250 | 1,313,250 | 100.00% |
| | **$ 169,990,000** | **$ 85,046,354** | **$ 255,036,354** | **$ 5,950,000** | **$ 843,213** | **$ 6,793,213** | | **$ (5,830,000)** | **$ (1,443,165)** | **$ (7,273,165)** | **$ 170,110,000** | **$ 84,446,401** | **$ 254,556,401** | |

**NOTES:**

(1) The above figures do not include short-term notes outstanding, if any. For more information, see the notes to the Financial Statements in the FINANCIAL STATEMENTS included herein.

(2) Estimated Interest Rates. Estimated Average Coupon of 2.55%.

# KNOXVILLE UTILITIES BOARD
# WATER DIVISION
## HISTORICAL DEBT COVERAGE ON OUTSTANDING WATER BONDS
For the Years Ended June 30

The historical coverage for the actual debt service requirements and the projected maximum annual debt service requirements (FY 2030) of the Outstanding Bonds and the Series FF-2017 Bonds for fiscal years ended June 30, 2012 through June 30, 2016 is set forth below.

| | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|
| Operating Revenues | $ 37,475,750 | $ 38,063,528 | $ 39,373,714 | $ 44,173,190 | $ 47,453,401 |
| Operating Expenses* | (21,189,636) | (21,427,740) | (22,871,480) | (22,694,149) | (23,334,846) |
| Net Income Before Depreciation & Taxes | $ 16,286,114 | $ 16,635,788 | $ 16,502,234 | $ 21,479,041 | $ 24,118,555 |
| Other Revenue | 200,362 | 139,775 | 125,448 | 134,691 | 194,146 |
| FICA & Medicare Tax Expense | (662,051) | (624,281) | (664,594) | (678,049) | (740,757) |
| Income available for debt service | 15,824,425 | 16,151,282 | 15,963,088 | 20,935,683 | 23,571,944 |
| Actual annual debt service requirements on outstanding bonds | $ 6,174,022 | $ 7,550,442 | $ 7,983,219 | $ 8,894,814 | $ 10,162,232 |
| Coverage | 2.56 x | 2.14 x | 2.00 x | 2.35 x | 2.32 x |
| Maximum annual debt ** service requirements (FY 2030) on Outstanding Bonds and on Series FF-2017 Bonds | $ 11,320,338 | $ 11,320,338 | $ 11,320,338 | $ 11,320,338 | $ 11,320,338 |
| Coverage | 1.40 x | 1.43 x | 1.41 x | 1.85 x | 2.08 x |

* Excluding Provision for Depreciation and Taxes

** From Debt Service Requirements Chart.

APPENDIX D-2

# WATER DIVISION
# REPORT OF INDEPENDENT AUDITORS AND FINANCIAL STATEMENTS

Knoxville Utilities Board

# Water Division

## Financial Statements and Supplemental Information
## June 30, 2016 and 2015

### KUB Board of Commissioners

Nikitia Thompson - Chair

Sara Hedstrom Pinnell - Vice Chair

Dr. Jerry W. Askew

Kathy Hamilton

Celeste Herbert

Eston Williams

John Worden

### Management

**Mintha Roach**
President and
Chief Executive Officer

**Bill Elmore**
Executive Vice President and
Chief Operating Officer

**Mark Walker**
Senior Vice President and
Chief Financial Officer

**Susan Edwards**
Senior Vice President and
Chief Administrative Officer

**Eddie Black**
Senior Vice President

**Mike Bolin**
Vice President

**Julie Childers**
Vice President

**Derwin Hagood**
Vice President

**Dawn Mosteit**
Vice President

**Paul Randolph**
Vice President

**Dennis Upton**
Vice President

# Knoxville Utilities Board Water Division
## Index
## June 30, 2016 and 2015

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# Report of Independent Auditors

Board of Commissioners
Water Division of the Knoxville Utilities Board
Knoxville, Tennessee

We have audited the accompanying financial statements of the Water Division (the Division) of the Knoxville Utilities Board, a component unit of the City of Knoxville, Tennessee, as of and for the years ended June 30, 2016 and 2015, and the related notes to the financial statements, which collectively comprise the Division's basic financial statements as listed in the index.

## Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

## Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Division's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Division's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

## Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Water Division of the Knoxville Utilities Board as of June 30, 2016 and 2015, and the changes in financial position and cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Board of Commissioners
Water Division of the Knoxville Utilities Board
Knoxville, Tennessee

## Other Matters

### *Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 3 through 24 and the required supplementary information on pages 51 through 53 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

### *Other Information*

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Division's basic financial statements. The supplemental information is presented for purposes of additional analysis and is not a required part of the basic financial statements. The supplemental information has not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we do not express an opinion or provide any assurance on it.

## Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated October 27, 2016, on our consideration of the Division's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Division's internal control over financial reporting and compliance.

Coulter & Justus, P.C.

Knoxville, Tennessee
October 27, 2016

Knoxville Utilities Board (KUB), comprised of the Electric Division, Gas Division, Water Division, and Wastewater Division (Divisions), is reported as a component unit enterprise fund in the financial statements of the City of Knoxville. KUB's responsibility is to oversee the purchase, production, distribution, and processing of electricity, natural gas, water, and wastewater services. A seven-member Board of Commissioners (Board) governs KUB. The Board has all powers to construct, acquire, expand, and operate the Divisions. It has full control and complete jurisdiction over the management and operation of the Divisions. The Water Division (Division) provides services to certain customers in Knox County and in two surrounding counties in East Tennessee. The Division's accounts are maintained in conformity with the Uniform System of Accounts of the National Association of Regulatory Utility Commissioners (NARUC) and the Governmental Accounting Standards Board (GASB), as applicable. The financial statements present only the Water Division and do not purport to, and do not, present fairly the consolidated financial position of Knoxville Utilities Board at June 30, 2016 and 2015, and the changes in its financial position for the years then ended in conformity with accounting principles generally accepted in the United States of America.

The Division's discussion and analysis is designed to (a) assist the reader in focusing on significant financial issues, (b) provide an overview of the Division's financial activity, (c) identify major changes in the Division's financial position, and (d) identify any financial concerns.

The Division's Management Discussion and Analysis (MD&A) focuses on the fiscal year ending June 30, 2016 activities, resulting changes and current known facts, and should be read in conjunction with the Division's financial statements.

## Water Division Highlights

### System Highlights

KUB serves 78,980 water system customers over a 188 square mile service area. KUB maintains 1,411 miles of service mains, 28 storage facilities, 24 booster pump stations, and one treatment plant, which provided 12 billion gallons of water to KUB's water customers in fiscal year 2016. The average daily flow for fiscal year 2016 was 32.9 million gallons.

The water system has added approximately 715 customers over the past three years representing annual growth of less than one percent.

The Division generated $2 million of additional revenue during the fiscal year as a result of the July 2015 water rate increase, adopted by the KUB Board of Commissioners to help fund the Division's Century II infrastructure program.

The typical residential water customer's average monthly bill was $22.45 as of June 30, 2016 (based on monthly use of 500 cubic feet or 3,740 gallons). The monthly bill increased $1 compared to the prior fiscal year, the result of the July 2015 water rate increase.

Water sales volumes have been impacted by the use of more efficient appliances and the conservation efforts of customers. As a result, water sales volumes have declined 7 percent in the past decade.

### Century II Infrastructure Program

Century II is KUB's proactive long-range program to improve and maintain the electric, natural gas, water and wastewater systems for its customers. It includes the maintenance and asset replacement strategies for each system and establishes sustainable replacement cycles. Century II moves KUB into its second century of service by improving each system through sound planning, resource allocation, and continued, but accelerated, investment.

KUB's Century II programs were resumed in 2011, after a break due to the economic recession. At that time, the KUB Board of Commissioners formally endorsed a ten year funding plan for the water system, including a combination of rate increases and debt issues. The Board also approved three years of annual water rate increases for fiscal years 2012 through 2014.

In April 2014, KUB management provided the Board an updated assessment of the overall condition of each utility system and the progress made during the resumption of the Century II program. A revised ten-year funding plan for the water system, including recommendations for annual rate increases and debt issues to fully fund the programs for each division, was included in the assessment.

In June 2014, the Board approved the proposed three annual rate increases for the Water Division. The July 2014 and July 2015 rate increases generated $3.6 million and $2 million of additional annual Water Division revenue, respectively, while the July 2016 rate increase will result in additional annual Water Division revenue of $2 million.

In fiscal year 2015, KUB concluded the smart grid pilot project, of which a portion of the project was funded by a United States Department of Energy Smart Grid Investment Grant (SGIG). This grant was received by KUB in 2009 as part of the American Reinvestment and Recovery Act (ARRA). Based upon the success of that pilot, KUB formed a plan to move forward with a Century II Grid Modernization initiative, which includes advanced metering for all KUB customers, a telecommunication system linking critical KUB infrastructure, and an increased investment in automation technology to help operate KUB's energy and water distribution systems.

KUB is in the process of implementing a 15-year initiative to ensure KUB will continue to provide high-quality, reliable water service to its customers over the long-term. KUB maintains a single water treatment plant for its system. In lieu of building a second treatment facility to ensure capacity will be available to meet the needs of current and future water customers, KUB will invest approximately $120 million in various redundant facilities at its existing Mark B. Whitaker Water Treatment Plant over the next 11 years.

KUB remains on track with its Century II water system infrastructure program. In fiscal year 2016, KUB replaced 14.3 miles of galvanized water main and 7.2 miles of cast iron main. Other notable Century II water system improvements projects included replacing water main on Cumberland Avenue to accommodate the City of Knoxville's Cumberland Avenue Streetscape project and the Downtown Century II project.

## Financial Highlights

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

The Division's net position during the year increased $6 million compared to a $5 million increase last fiscal year. A restatement to the fiscal year 2014's net position based on a change in method of accounting for pension expense reduced the total net position by $0.1 million during fiscal year 2015.

Operating revenue increased $3.3 million or 7.4 percent, the result of additional revenue from the water rate increase effective July 2015 and a 0.8 percent increase in water sales volumes.

Operating expenses increased $2 million or 5.9 percent. Operating and maintenance expenses (O&M) increased $0.6 million compared to the prior year. Depreciation expense increased $1.3 million or 16.2 percent. Taxes and tax equivalents increased $0.1 million from the prior year.

Interest income was up $0.1 million from the prior fiscal year. Interest expense was $0.2 million higher than the prior year, due to additional interest expense from bonds sold in the August 2014 and April 2015.

Capital contributions were $0.1 million higher than the prior fiscal year, the result of increased contributed assets from developers.

Total plant assets (net) increased $23.2 million or 9 percent due to water main replacement, treatment plant improvements and upgrades to various information systems.

Long-term debt represented 46.9 percent of the Division's capital structure as of June 30, 2016, as compared to 48.6 percent last year. Capital structure equals long-term debt (which includes the current and long term portion of revenue bonds and notes) plus net position.

The Division's bond covenants require a debt service coverage ratio of at least 1.2 times the maximum principal and interest payments over the life of the Division's outstanding bonds. Current year debt coverage for the fiscal year was 2.41. Maximum debt service coverage was 2.32

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

The Division's net position during the year increased $5 million compared to a $1.5 million increase last fiscal year. A restatement to the prior fiscal year's net position based on a change in method of accounting for pension expense reduced the total net position by $0.1 million during fiscal year 2015. This change resulted in a net increase of $4.9 million or 3.2 percent in the Division's net position.

Operating revenue increased $4.8 million or 12.2 percent, the net result of additional revenue from the Century II water rate increases, which were effective January and July 2014, and a 1.6 percent increase in water sales volumes.

Operating expenses increased $1.3 million or 3.8 percent. Operating and maintenance expenses (O&M) decreased $0.2 million compared to the prior year. Depreciation expense increased $0.9 million or 12.4 percent. Taxes and tax equivalents increased $0.6 million from the prior year.

Interest income was consistent with the prior fiscal year. However, interest expense was $0.2 million higher than the prior year, due to additional interest expense from bonds sold in the August 2014 and April 2015.

Capital contributions were $0.1 million higher than the prior fiscal year, the result of increased contributed assets from developers.

Total plant assets (net) increased $18.4 million or 7.7 percent due to main replacement, treatment plant improvements and information system upgrades.

KUB sold two series of water system revenue bonds during fiscal year 2015 for the purpose of funding water system capital improvements totaling $28 million. The $20 million bond issue in April 2015 was accelerated to take advantage of the low interest rate environment which impacted the Division's debt rate and debt service coverage levels for fiscal year 2015. Long-term debt represented 48.6 percent of the Division's capital structure as of June 30, 2015, as compared to 44.8 percent last year. Capital structure equals long-term debt (which includes the current and long term portion of revenue bonds and notes) plus net position.

The Division's bond covenants require a debt service coverage ratio of at least 1.2 times the maximum principal and interest payments over the life of the Division's outstanding bonds. Current year debt coverage for the fiscal year was 2.35. Maximum debt service coverage was 2.06.

## Knoxville Utilities Board Water Division - Financial Statements

The Division's financial performance is reported under three basic financial statements: the Statement of Net Position; the Statement of Revenues, Expenses, and Changes in Net Position; and the Statement of Cash Flows.

### Statement of Net Position

The Division reports its assets, deferred outflows of resources, liabilities, deferred inflows of resources, and net position in the Statement of Net Position. Assets are classified as current, restricted, water plant in service, or other assets.

Liabilities are classified as current, other, or long-term debt. Net position is classified as net investment in capital assets; restricted; or unrestricted. Net position tells the user what the Division has done with its accumulated earnings, not just the balance.

Net investment in capital assets reflects the book value of all capital assets less the outstanding balances of debt used to acquire, construct, or improve those assets.

Restricted net position are assets that have been limited to specific uses by the Division's bond covenants or through resolutions passed by the KUB Board.

Unrestricted net position are a residual classification; the amount remaining after reporting net position as either invested in capital or restricted is reported there.

### Statement of Revenues, Expenses, and Changes in Net Position

The Division reports its revenues and expenses (both operating and non-operating) on the Statement of Revenues, Expenses, and Changes in Net Position. In addition, any capital contributions or assets donated by developers are reported on this statement.

Total revenue less total expense equals the change in net position for the reporting period. Net position at the beginning of the period is increased or decreased, as applicable, by the change in net position for the reporting period.

The change in net position for the reporting period is added to the net position segment of the Statement of Net Position.

### Statement of Cash Flows

The Division reports cash flows from operating activities, capital and related financing activities, and investing activities on the Statement of Cash Flows. This statement tells the user the Division's sources and uses of cash during the reporting period.

The statement indicates the Division's beginning cash balance and ending cash balance and how it was either increased or decreased during the reporting period.

The statement also reconciles cash flow to operating income as it appears on the Statement of Revenues, Expenses, and Changes in Net Position.

## Condensed Financial Statements

## Statement of Net Position

The following table reflects the condensed Statement of Net Position for the Water Division compared to the prior year and the year preceding the prior year.

### Statements of Net Position
### As of June 30

| *(in thousands of dollars)* | **2016** | **2015** | **2014** |
|---|---|---|---|
| Current, restricted and other assets | $ 33,888 | $ 55,083 | $ 43,995 |
| Capital assets, net | 281,258 | 258,139 | 239,706 |
| Deferred outflows of resources | 3,273 | 2,459 | 260 |
| Total assets and deferred outflows of resources | 318,419 | 315,681 | 283,961 |
| Current and other liabilities | 13,097 | 10,996 | 10,584 |
| Long-term debt outstanding | 142,132 | 146,857 | 121,264 |
| Deferred inflows of resources | 197 | 829 | - |
| Total liabilities and deferred inflows of resources | 155,426 | 158,682 | 131,848 |
| Net position | | | |
| Net investment in capital assets | 138,069 | 110,579 | 116,197 |
| Restricted | 1,523 | 1,375 | 1,219 |
| Unrestricted | 23,401 | 45,045 | 34,697 |
| Total net position | $ 162,993 | $ 156,999 | $ 152,113 |

## Normal Impacts on Statement of Net Position

The following is a description of activities which will normally impact the comparability of the Statement of Net Position presentation.

- Change in net position (from Statement of Revenues, Expenses, and Change in Net Position): impacts (increase/decrease) current and other assets and/or capital assets and unrestricted net position.

- Issuing debt for capital: increases deferred outflows of resources and long-term debt.

- Spending debt proceeds on new capital: reduces current assets and increases capital assets.

- Spending of non-debt related current assets on new capital: (a) reduces current assets and increases capital assets and (b) reduces unrestricted net position and increases net investment in capital assets.

- Principal payment on debt: (a) reduces current and other assets and reduces long-term debt and (b) reduces unrestricted net position and increases net investment in capital assets.

- Reduction of capital assets through depreciation: reduces capital assets and net investment in capital assets.

## Impacts and Analysis

## Current, Restricted and Other Assets

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Current, restricted and other assets decreased $21.2 million or 38.5 percent. The decrease reflects the utilization of $9.9 million in bond proceeds and an $11.9 million decrease in the Division's general fund cash (consisting of cash and cash equivalents, short-term investments, and long-term investments). These decreases were offset by a $0.5 million increase in operating contingency reserves.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Current, restricted and other assets increased $11.1 million or 25.2 percent. The increase reflects a higher level of unused bond proceeds of $9.9 million and a $1.2 million increase in operating contingency reserves. These increases were offset by a $0.9 million decrease in the Division's general fund cash (consisting of cash and cash equivalents, short-term investments, and long-term investments).

## Capital Assets

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Capital assets, net of depreciation, increased $23.2 million or 9 percent. Capital expenditures included $13.5 million for water main replacement, $7.5 million for treatment plant and system improvements, $2.8 million for the replacement and relocation of water system assets to accommodate Tennessee Department of Transportation (TDOT) highway improvement projects and $1.1 million for upgrades to various information systems. $4.9 million of water system assets were retired during the fiscal year.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Capital assets, net of depreciation, increased $18.4 million or 7.7 percent. Capital expenditures included $12.5 million for water main replacement, $7.8 million for treatment plant and system improvements and $1.1 million for information system upgrades. $2 million of water system assets were retired during the fiscal year.

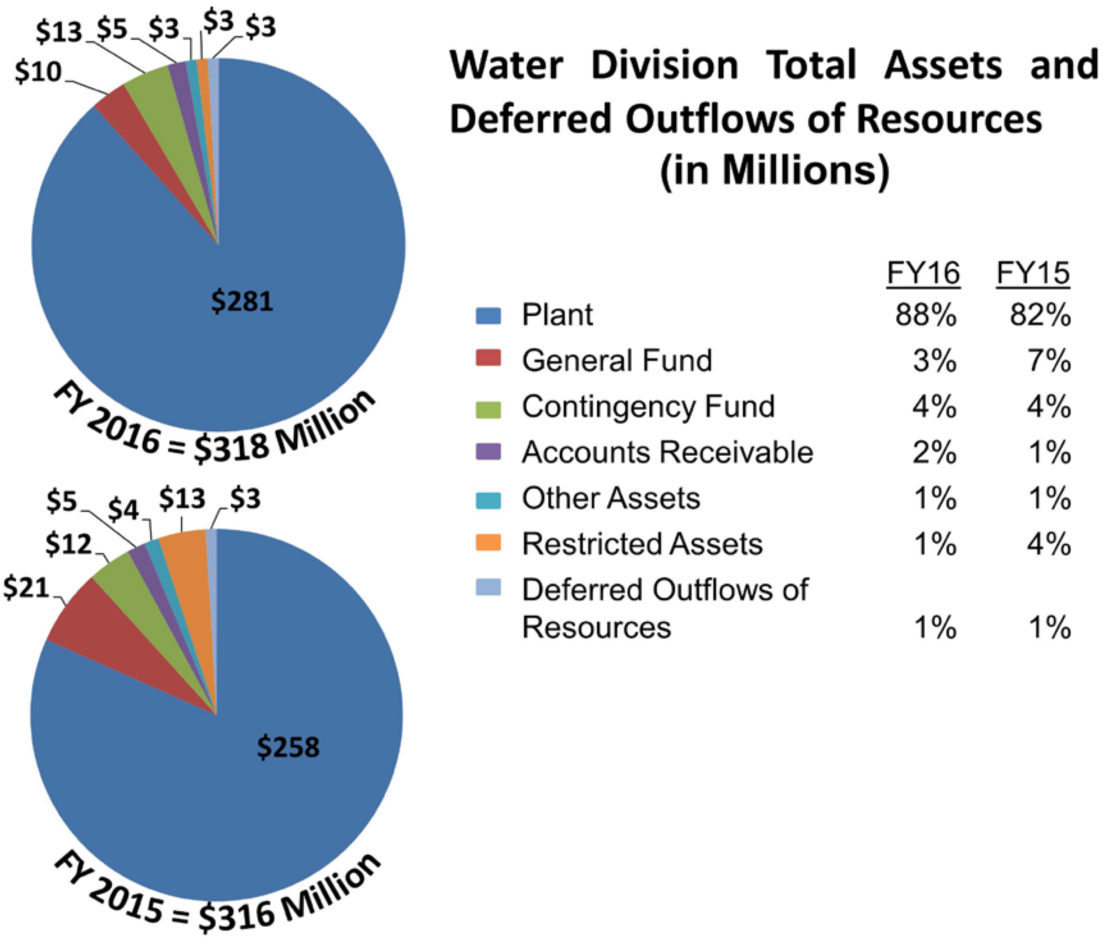
## Deferred Outflows of Resources

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Deferred outflows of resources increased $0.8 million compared to the prior fiscal year. This increase was the net effect of an increase in pension outflow of $0.9 million and a decrease of unamortized bond refunding costs of $0.1 million.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Deferred outflows of resources increased $2.2 million compared to the prior fiscal year. The unamortized bond refunding costs increased $1.8 million due to the April 2015 issuance of $23 million in revenue refunding bonds.



**Water Division Total Assets and Deferred Outflows of Resources (in Millions)**

| | FY16 | FY15 |
|---|---|---|
| 🟦 Plant | 88% | 82% |
| 🟥 General Fund | 3% | 7% |
| 🟩 Contingency Fund | 4% | 4% |
| 🟪 Accounts Receivable | 2% | 1% |
| 🟦 Other Assets | 1% | 1% |
| 🟧 Restricted Assets | 1% | 4% |
| 🟦 Deferred Outflows of Resources | 1% | 1% |

## Current and Other Liabilities

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Current and other liabilities increased $2.1 million over the prior fiscal year. Accounts payable at year end were $0.9 million higher and the actuarially determined net pension obligation of $0.7 million was recognized in fiscal year 2016.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Current and other liabilities increased $0.4 million over the prior fiscal year due to a $0.8 million increase in the current portion of revenue bonds and a $0.3 million increase in accounts payable.

## Long-Term Debt

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Long-term debt decreased $4.7 million or 3.2 percent primarily due to $4.6 million of long-term bond debt that shifted to current liabilities as payable within the next year.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Long-term debt increased $25.6 million or 21.1 percent, the combined result of additional revenue bonds of $8 million issued in August 2014 and $20 million issued April 2015. The increase was partially offset by the scheduled repayment of bond debt.

## Deferred Inflows of Resources

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Deferred inflows decreased $0.6 million compared to the prior fiscal year due to differences in pension inflows.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Deferred inflows of resources were $0.8 million due to the addition of pension inflow.

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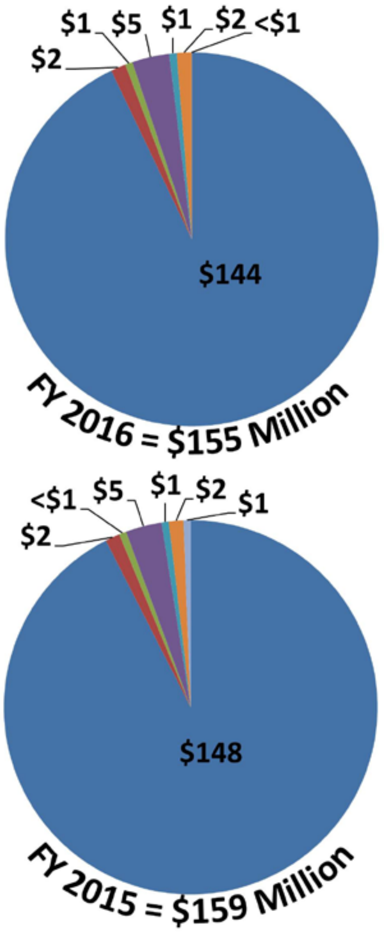
**Water Division Total Liabilities and Deferred Inflows of Resources (in Millions)**



| | FY16 | FY15 |
|---|---|---|
| 🟦 Bond Debt | 93% | 93% |
| 🟥 Payables | 2% | 1% |
| 🟩 Misc Current | 1% | <1% |
| 🟪 Other Liabilities | 3% | 3% |
| 🟦 Customer Deposits | <1% | <1% |
| 🟧 Interest Accrued | 1% | 1% |
| 🟦 Deferred Inflows of Resources | <1% | 1% |

## Net Position

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Net position increased $6 million this fiscal year. Net investment in capital assets increased $27.5 million, due to an increase to net plant in service of $23.2 million. Unrestricted net position decreased $21.6 million, primarily due to an $11.9 million decrease in general fund cash and a $9.9 decrease in unused bond proceeds compared to June of the prior year. Restricted assets increased $0.1 million, due to additional funds restricted for debt service.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Net position increased $4.9 million this fiscal year. Net investment in capital assets decreased $5.6 million, due to the net effect of an increase to net plant in service of $18.4 million and additional debt of $28 million. Unrestricted net position increased $10.3 million, primarily due to unused bond proceeds for capital improvements in the general fund. Restricted assets increased $0.2 million, due to additional funds restricted for debt service.

## Statement of Revenues, Expenses, and Changes in Net Position

The following table reflects the condensed Statement of Revenues, Expenses, and Changes in Net Position for the Water Division compared to the prior year and the year preceding the prior year.

### Statements of Revenues, Expenses, and Changes in Net Position
### For the Years Ended June 30

| *(in thousands of dollars)* | 2016 | 2015 | 2014 |
|---|---|---|---|
| Operating revenues | $ 47,453 | $ 44,173 | $ 39,374 |
| Operating expenses | | | |
| Treatment | 4,186 | 3,789 | 3,355 |
| Distribution | 12,645 | 13,046 | 13,635 |
| Customer service | 1,666 | 1,653 | 1,517 |
| Administrative and general | 4,838 | 4,206 | 4,364 |
| Depreciation | 9,055 | 7,795 | 6,934 |
| Taxes and tax equivalents | 3,717 | 3,622 | 3,042 |
| Total operating expenses | 36,107 | 34,111 | 32,847 |
| Operating income | 11,346 | 10,062 | 6,527 |
| Interest income | 194 | 135 | 126 |
| Interest expense | (5,612) | (5,421) | (5,258) |
| Other income/(expense) | (235) | (23) | (73) |
| Change in net position before capital contributions | 5,693 | 4,753 | 1,322 |
| Capital Contributions | 301 | 233 | 158 |
| Change in net position | $ 5,994 | $ 4,986 | $ 1,480 |

## Normal Impacts on Statement of Revenues, Expenses, and Changes in Net Position

The following is a description of activities which will normally impact the comparability of the Statement of Revenues, Expenses, and Change in Net Position presentation.

- Operating revenues are largely determined by the volumes of water sold during the fiscal year. Any change (increase/decrease) in retail water rates would also be a cause of change in operating revenue.
- Operating expenses (treatment, distribution, customer service, administrative and general) are normally impacted by changes in areas including, but not limited to, labor cost (staffing, wage rates), active employee and retiree medical costs, chemicals, and water system maintenance.
- Depreciation expense is impacted by plant additions and retirements during the fiscal year.
- Taxes and tax equivalents are impacted by plant additions/retirements and changes in property tax rates.
- Interest expense is impacted by the level of interest rates and investments.

- Interest expense on debt is impacted by the level of outstanding debt and the interest rates on the outstanding debt.

- Other income/(expenses) is impacted by miscellaneous non-operating revenues and expenses.

- Capital contributions are impacted by a donation of facilities/infrastructure to KUB by developers and governmental agencies. The contributions are recognized as revenue and recorded as plant in service based on the fair market value of the asset(s).

## Impacts and Analysis

## Change in Net Position

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

The Division's net position during the year increased $6 million compared to a $5 million increase last fiscal year. A restatement to fiscal year 2014's net position based on a change in method of accounting for the pension reduced the total net position by $0.1 million.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

The Division's net position during the year increased $5 million compared to a $1.5 million increase last fiscal year. A restatement to the prior fiscal year's net position based on a change in method of accounting for the pension reduced the total net position by $0.1 million. This change resulted in a net increase of $4.9 million or 3.2 percent in the Division's net position.

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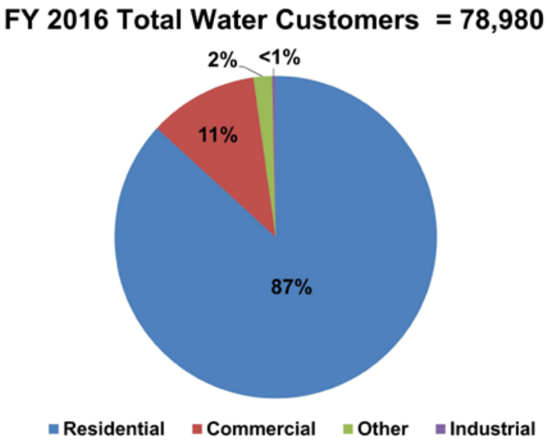
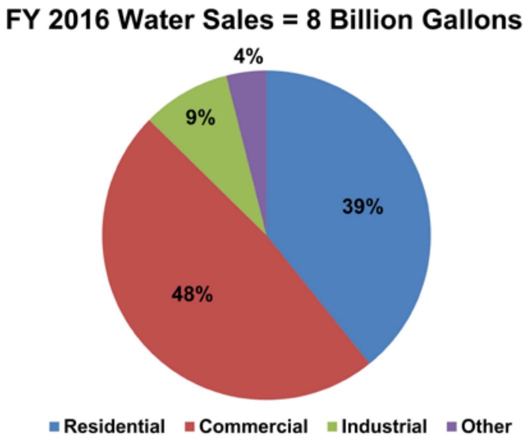
## Margin from Sales

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Operating revenues increased $3.3 million or 7.4 percent, reflecting additional revenue from the July 2015 water rate increase and a one percent increase in sales volumes. Operating expenses rose $2 million and interest expense increased $0.2 million.


FY 2016 Total Water Customers = 78,980


FY 2016 Water Sales = 8 Billion Gallons

Residential customers represented 87 percent of water customers and accounted for 39 percent of water sales volumes for the year. Commercial and industrial customers accounted for the largest portion (57 percent) of total sales volumes during the year.

KUB's ten largest water customers accounted for 11.9 percent of KUB's billed water volumes. Those ten customers represent five industrial and five commercial customers, including three governmental customers.

Residential water sales volumes were 1.6 percent lower than the prior fiscal year. Residential sales were lower throughout the majority of the year, due to higher precipitation levels during the fiscal year.

Commercial sales volumes increased 0.4 percent compared to the prior year. Industrial sales volumes increased 2.8 percent compared to the prior year.

KUB has added 715 water customers over the past three years, representing annual growth of less than one percent. Water system growth has slowed in recent years, in large part due to the slowdown of new housing construction.

Fiscal year 2016 water sales volumes were slightly higher than the prior fiscal year, reflecting higher water sales for commercial and industrial customers. Sales volumes have remained relatively consistent by customer class over the last three years.

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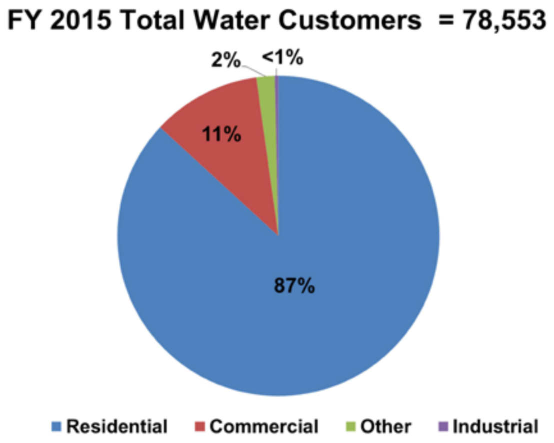
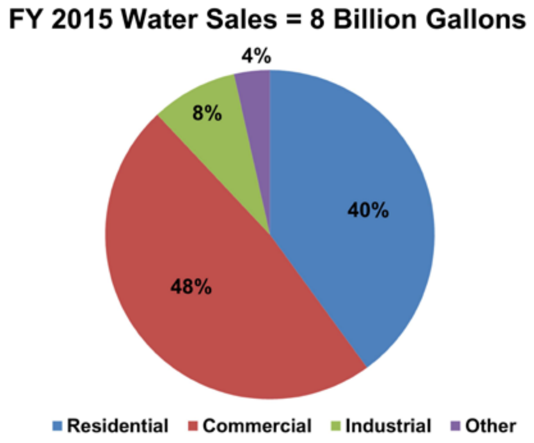
### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Operating revenues increased $4.8 million or 12.2 percent, reflecting additional revenue from the January and July 2014 water rate increases. Operating expenses rose $1.3 million, interest expense increased $0.2 million, and capital contributions from developers increased $0.1 million.





Residential customers represented 87 percent of water customers and accounted for 40 percent of water sales volumes for the year. Commercial and industrial customers accounted for the largest portion (56 percent) of total sales volumes during the year.

KUB's ten largest water customers accounted for 11.1 percent of KUB's billed water volumes. Those ten customers represent five industrial and five commercial customers, including three governmental customers.

Residential water sales volumes were 0.8 percent higher than the prior fiscal year. Residential sales were higher throughout the majority of the year, due to lower precipitation levels during the fiscal year.

Commercial sales volumes increased 1.9 percent compared to the prior year. Industrial sales volumes decreased 1.3 percent compared to the prior year.

KUB has added 568 water customers over the past three years, representing annual growth of less than one percent. Water system growth has slowed in recent years, in large part due to the slowdown of new housing construction.

Fiscal year 2015 water sales volumes were higher than the prior fiscal year, reflecting higher water sales for residential and commercial customers. Sales volumes have remained relatively consistent by customer class over the last three years.

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## Operating Expenses

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

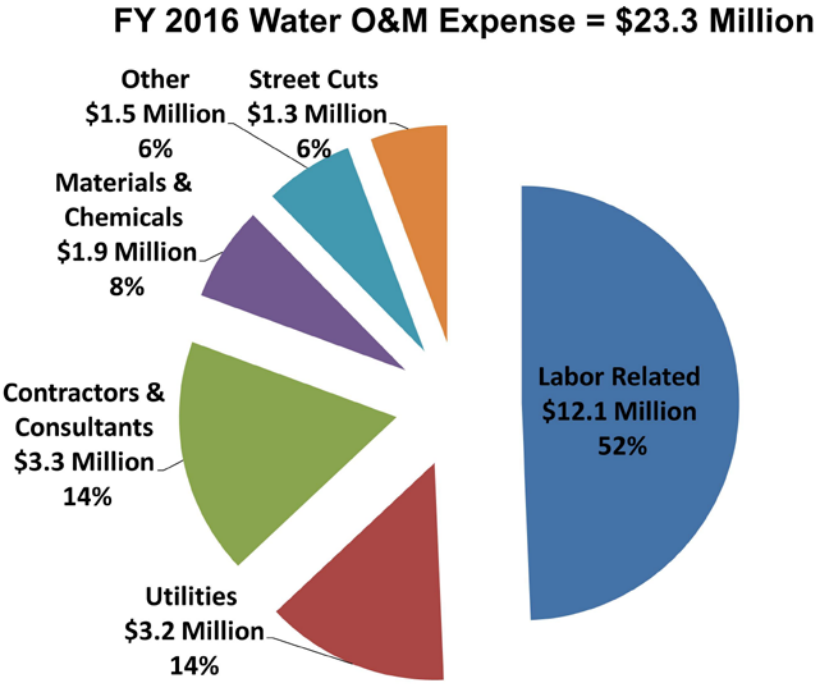
Operating expenses increased $2 million or 5.9 percent. Operating expenses include operations and maintenance (O&M) expense, depreciation, and taxes/tax equivalents. O&M expenses can be further classified as treatment, distribution, customer service and administrative and general.

- Treatment expenses increased $0.4 million or 10.5 percent, primarily reflecting higher labor related expenses.

- Distribution expenses were $0.4 million or 3.1 percent lower than the prior fiscal year, due to a decline in outside contractor costs.

- Customer service expenses were consistent with the prior fiscal year.

- Administrative and general expenses increased $0.6 million due to higher pension expenses.



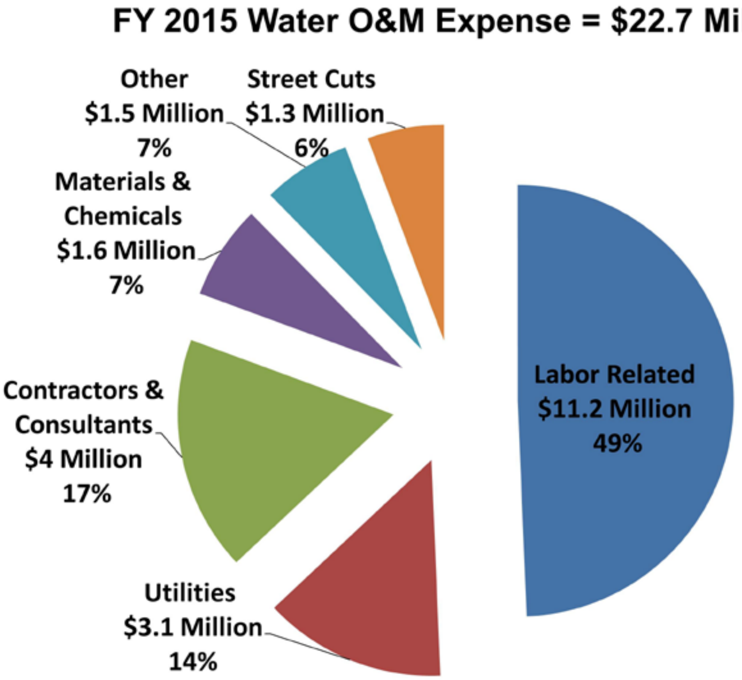
- Depreciation expense was up $1.3 million primarily due to Century II initiatives to replace mains and the accelerated depreciation of existing meters that are to be replaced as part of KUB's Grid Modernization project. In addition, $4.9 million of assets were retired during fiscal year 2016.

- Taxes and tax equivalents increased $0.1 million from prior fiscal year due to increased plant in service levels.

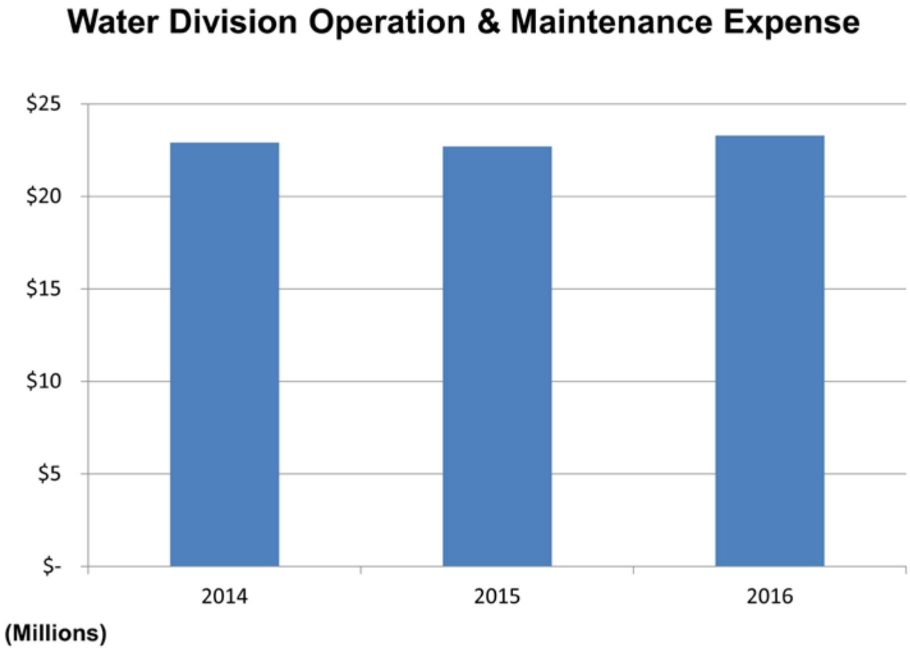
### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Operating expenses increased $1.3 million or 3.8 percent. Operating expenses include operations and maintenance (O&M) expense, depreciation, and taxes/tax equivalents. O&M expenses can be further classified as treatment, distribution, customer service and administrative and general.

- Treatment expenses increased $0.4 million or 12.9 percent, primarily reflecting higher outside consultant expenses associated with a coagulation optimization study for the water treatment plant.
- Distribution expenses were $0.6 million or 4.3 percent lower than the prior fiscal year, due to a decline in outside contractor costs and street cut expenses.
- Customer service expenses increased $0.1 million or 9 percent.
- Administrative and general expenses decreased $0.1 million or 3.6 percent.



- Depreciation expense was up $0.9 million reflecting a full year of depreciation on $23.9 million of water system assets added the previous fiscal year and a partial year of depreciation on $14.2 million of assets added in fiscal year 2015. In addition, $2.1 million of assets were retired during fiscal year 2015.
- Taxes and tax equivalents increased $0.6 million from prior fiscal year due to an increase in tax equivalent payments to the City of Knoxville. The City of Knoxville's property tax rate increased this year and higher plant in service levels contributed to the growth in tax equivalent payments.



## Other Income and Expense

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Interest income was up $0.1 million from the prior fiscal year.

Interest expense increased $0.2 million, reflecting additional interest expense from revenue bonds sold in fiscal year 2015.

Other income (net) decreased $0.2 million compared to the prior fiscal year.

Capital contributions by developers were $0.1 million higher than the prior fiscal year.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Interest income was consistent with the prior fiscal year.

Interest expense increased $0.2 million, reflecting interest expense from the $28 million in revenue bonds sold in fiscal year 2015.

Other income (net) was increased $0.1 million compared to the prior fiscal year.

Capital contributions by developers were $0.1 million higher than fiscal year 2014.

## Capital Assets

### Capital Assets
### As of June 30
### (Net of Depreciation)

*(in thousands of dollars)*

| | | 2016 | | 2015 | | 2014 |
|---|---|---|---|---|---|---|
| **Production Plant** | $ | 58 | $ | 62 | $ | 76 |
| **Pumping & Treatment Plant** | | 50,067 | | 39,411 | | 41,201 |
| **Distribution Plant** | | | | | | |
| Distribution Mains | $ | 141,200 | | 126,124 | | 117,714 |
| Transmission Mains | | 22,295 | | 19,182 | | 19,506 |
| Services & Meters | | 19,349 | | 18,541 | | 18,561 |
| Other Accounts | | 11,620 | | 11,057 | | 10,891 |
| **Total Distribution Plant** | | 194,464 | $ | 174,904 | $ | 166,672 |
| **Total General Plant** | $ | 9,172 | | 8,133 | | 8,240 |
| **Total Water Plant** | | 253,761 | $ | 222,510 | $ | 216,189 |
| Work In Progress | | 27,497 | | 35,629 | | 23,517 |
| **Total Net Plant** | $ | 281,258 | $ | 258,139 | $ | 239,706 |

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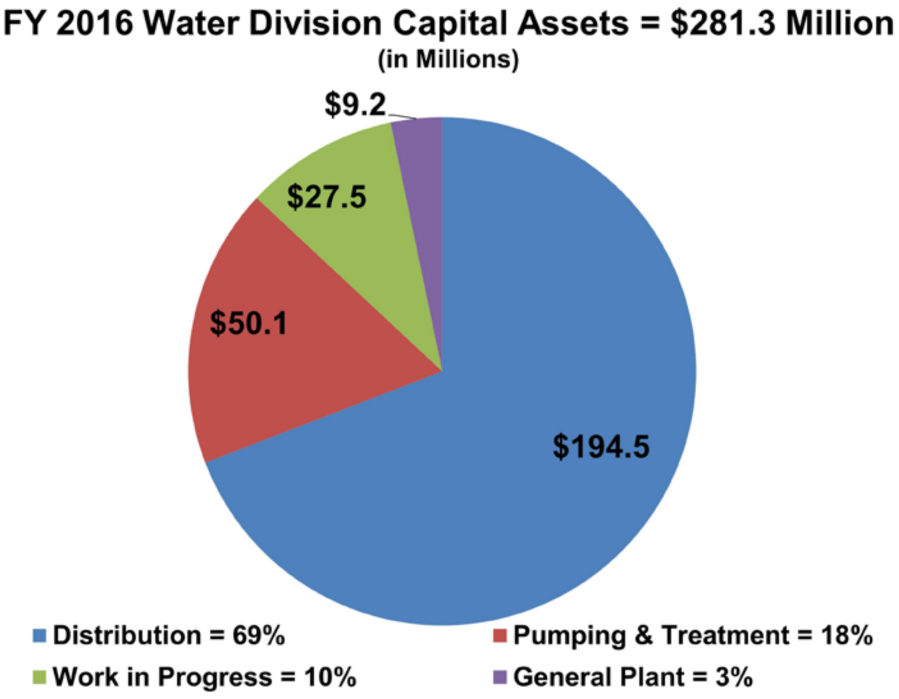
### *Fiscal Year 2016 Compared to Fiscal Year 2015*

As of June 30, 2016, the Division had $281.3 million invested in a variety of capital assets, as reflected in the schedule of capital assets, which represented a net increase (including additions, retirements, and depreciation) of $23.2 million or 9 percent over the end of the last fiscal year.



Major capital asset expenditures during the year were as follows:

- $13.5 million for galvanized and cast iron water main replacement
- $7.5 million for major plant and system improvements
- $2.8 million for replacement and relocation of water system assets to accommodate TDOT highway improvement projects
- $1.1 million for upgrades to various information systems

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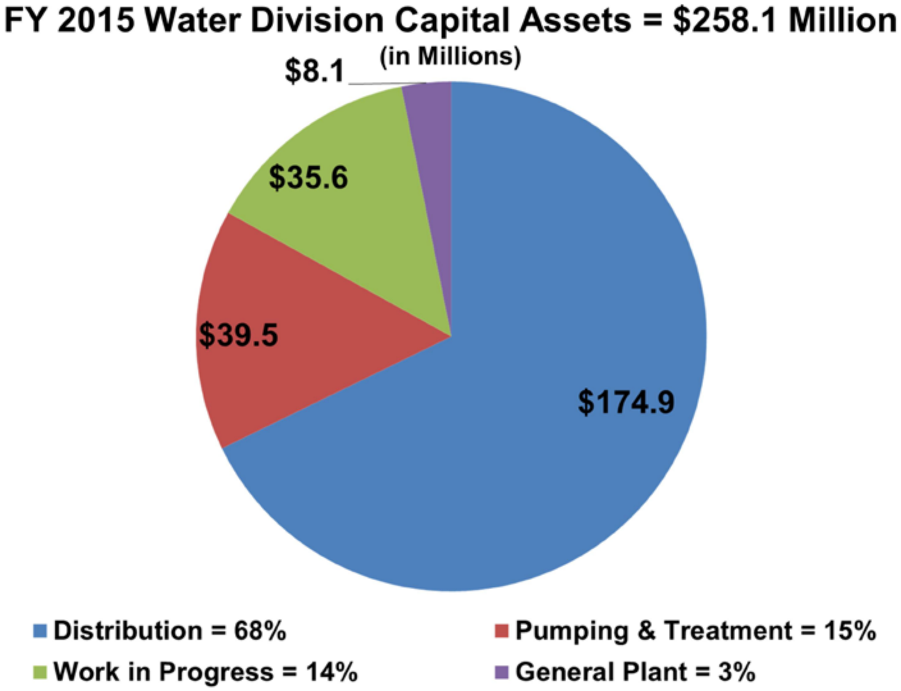
### *Fiscal Year 2015 Compared to Fiscal Year 2014*

As of June 30, 2015, the Division had $258.1 million invested in a variety of capital assets, as reflected in the schedule of capital assets, which represented a net increase (including additions, retirements, and depreciation) of $18.4 million or 7.7 percent over the end of the last fiscal year.



Major capital asset expenditures during the year were as follows:

- $12.5 million for galvanized and cast iron water main replacement
- $7.8 million for major plant and system improvements
- $1.1 million for information system upgrades

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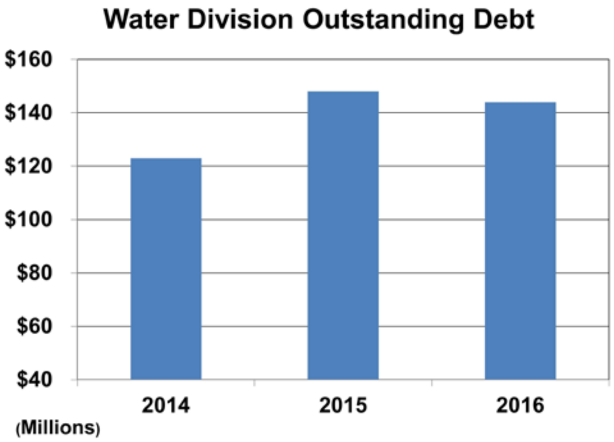
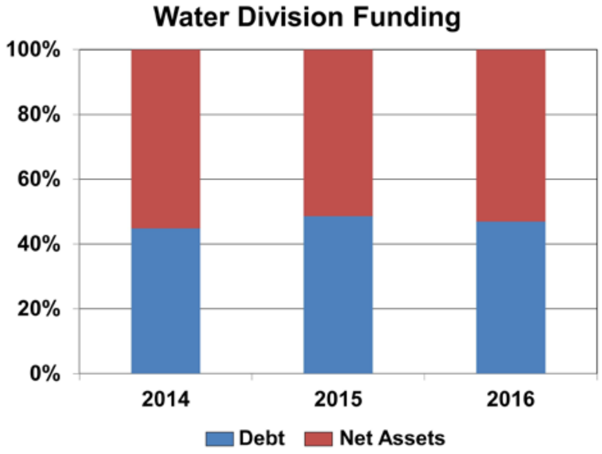
## Debt Administration

As of June 30, 2016 the Water Division had $144 million in outstanding water system bonds. The bonds are secured solely by revenues of the Water Division. Debt as a percentage of the Division's capital structure was 46.9 percent in 2016, 48.6 percent in 2015, and 44.8 percent at the end of fiscal year 2014. KUB's Debt Management Policy limits the Division's debt ratio to 60 percent or less.

### Outstanding Debt
### As of June 30

| *(in thousands of dollars)* | **2016** | **2015** | **2014** |
|---|---|---|---|
| Revenue bonds | $ 143,990 | $ 148,400 | $ 123,385 |
| Total outstanding debt | $ 143,990 | $ 148,400 | $ 123,385 |


**Water Division Outstanding Debt**


**Water Division Funding**

The Division will pay $54.1 million in principal payments over the next ten years, representing 37.6 percent of the outstanding bonds. KUB's Debt Management Policy requires a minimum of 30 percent of water debt principal be repaid over the next ten years.

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

As of June 30, 2016, the Division had $144 million in outstanding debt (including the current portion of revenue bonds), compared to $148.4 million last year, a decrease of $4.4 million or 3 percent. The decrease is attributable to the scheduled repayment of bond debt. The Division's weighted average cost of debt as of June 30, 2016 was 3.82 percent.

The Division's outstanding debt is rated by Standard & Poor's and Moody's Investors Service. As of June 30, 2016, the Division's revenue bonds were rated AAA by Standard & Poor's and Aa2 by Moody's Investors Service. The Standard and Poor's water rating represented the highest credit rating available from Standard and Poor's.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

As of June 30, 2015, the Division had $148.4 million in outstanding debt (including the current portion of revenue bonds), compared to $123.4 million last year, an increase of $25 million or 20.3 percent. The Division's weighted average cost of debt as of June 30, 2015 was 3.82 percent.

The increase is attributable to the issuance of revenue bonds during the fiscal year of $8 million in August 2014 and $20 million in April 2015. The increase was partially offset by the scheduled repayment of bond debt.

In April 2015, KUB issued $23 million of revenue refunding bonds. The refunding of certain bonds at lower interest rates will provide debt service savings of $2.4 million over the life of the bonds.

The Division's outstanding debt is rated by Standard & Poor's and Moody's Investors Service. As of June 30, 2015, the Division's revenue bonds were rated AAA by Standard & Poor's and Aa2 by Moody's Investors Service. The Standard and Poor's water rating represented an upgrade for water system bonds and the highest credit rating available from Standard and Poor's. In the rating report on the water system bonds, Standard & Poor's stated "the upgrade is based on the water system's extremely strong financial risk profile, which we view as sustainable over time after reviewing management's long-term financial forecast."

## Impacts on Future Financial Position

KUB anticipates adding 100 additional water system customers during fiscal year 2017.

In June 2014, the KUB Board adopted three years of rate increases for all four Divisions to help fund the ongoing Century II infrastructure programs for each system. The first and second rate increases were effective July 2014 and July 2015. The remaining water rate increase will be effective July 2016. The July 2016 rate increase will result in additional annual water system revenue of $2 million.

KUB sold $25 million in water system revenue bonds in July 2016 for the purpose of funding water system capital improvements. The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.72 percent.

KUB sold $20.9 million in water system revenue refunding bonds in July 2016 for the purpose of refinancing existing debt at lower interest rates. KUB will realize a total debt service savings of $2.5 million over the life of the bonds ($2.2 million on a net present value basis). The true interest cost of the bonds, which were sold through a competitive bidding process was 2.07 percent.

As part of the rating process for the $25 million in revenue bonds and $20.9 million in revenue refunding bonds, Moody's upgraded its rating on KUB's water system bonds to Aa1 from Aa2. Aa1 is the second to highest bond credit rating assigned by Moody's Investors Service. In its formal rating report, Moody's stated "the upgrade to Aa1 reflects the well-managed financial operations of the water system that continues to provide for solid debt service coverage and liquidity, a mature service area, and a manageable debt profile." The AAA bond rating from Standard and Poor's was reaffirmed. In its formal rating report on the water bonds Standard and Poor's noted "based on our financial management assessment we view KUB to be "1" on a scale of 1-6, with "1" being the strongest."

In April 2016, KUB management presented the fiscal year 2017 budget to the KUB Board of Commissioners that accommodates the projected level of capital investment for the fiscal year. Over the course of the next ten years, KUB plans to spend approximately $108 million dollars on Grid Modernization, of which the Division's share is $24.1 million. In July 2016, the four-year deployment of advanced meters began.

GASB Statement No. 82, *Pension Issues – An amendment of GASB Statements No. 67, No. 68 and No. 73* is effective for fiscal years beginning after June 15, 2016. GASB Statement No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans,* and GASB No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions,* are effective for periods beginning after June 15, 2017. KUB has not elected early implementation of these standards and has not completed the process of evaluating the impact of these statements on its financial statements.

No other facts, decisions, or conditions are currently known which would have a significant impact on the Division's financial position or results of operations during fiscal year 2016.

## Financial Contact

The Division's financial statements are designed to present users (citizens, customers, investors, and creditors) with a general overview of the Division's financial position and results of operations for the fiscal years ending June 30, 2016 and 2015. If you have questions about the statements or need additional financial information, contact KUB's Chief Financial Officer at 445 South Gay Street, Knoxville, Tennessee 37902.

# Knoxville Utilities Board Water Division

## Statements of Net Position

## June 30, 2016 and 2015

| | 2016 | 2015 |
|---|---|---|
| **Assets and Deferred Outflows of Resources** | | |
| Current assets: | | |
| Cash and cash equivalents | $ 9,392,817 | $ 21,304,494 |
| Short-term contingency fund investments | 4,293,789 | 411,198 |
| Other current assets | 199,139 | 198,678 |
| Accrued interest receivable | 6,896 | 5,985 |
| Accounts receivable, less allowance of uncollectible accounts of $58,504 in 2016 and $49,412 in 2015 | 5,360,089 | 4,987,019 |
| Inventories | 1,221,125 | 1,037,326 |
| Prepaid expenses | 50,480 | 39,980 |
| Total current assets | 20,524,335 | 27,984,680 |
| Restricted assets: | | |
| Water bond fund | 3,354,126 | 2,969,210 |
| Other funds | 2,784 | 5,707 |
| Unused bond proceeds | - | 9,928,179 |
| Total restricted assets | 3,356,910 | 12,903,096 |
| Water plant in service | 361,343,360 | 325,586,934 |
| Less accumulated depreciation | (107,582,378) | (103,077,327) |
| | 253,760,982 | 222,509,607 |
| Retirement in progress | 16,582 | 94,481 |
| Construction in progress | 27,480,060 | 35,534,671 |
| Net plant in service | 281,257,624 | 258,138,759 |
| Other assets: | | |
| Net pension asset | - | 782,812 |
| Long-term contingency fund investments | 8,384,342 | 11,751,074 |
| Other | 1,623,210 | 1,661,676 |
| Total other assets | 10,007,552 | 14,195,562 |
| Total assets | 315,146,421 | 313,222,097 |
| Deferred outflows of resources: | | |
| Pension outflow | 1,346,448 | 410,436 |
| Unamortized bond refunding costs | 1,926,554 | 2,048,783 |
| Total deferred outflows of resources | 3,273,002 | 2,459,219 |
| Total assets and deferred outflows of resources | $ 318,419,423 | $ 315,681,316 |

The accompanying notes are an integral part of these financial statements.

# Knoxville Utilities Board Water Division
## Statements of Net Position
## June 30, 2016 and 2015

| | 2016 | 2015 |
|---|---|---|
| **Liabilities, Deferred Inflows, and Net Position** | | |
| Current liabilities: | | |
| Current portion of revenue bonds | $ 4,560,000 | $ 4,410,000 |
| Sales tax collections payable | 284,220 | 265,897 |
| Accounts payable | 2,739,011 | 1,832,317 |
| Accrued expenses | 579,507 | 486,462 |
| Customer deposits plus accrued interest | 804,794 | 767,050 |
| Accrued interest on revenue bonds | 1,834,026 | 1,599,555 |
| Total current liabilities | 10,801,558 | 9,361,281 |
| Other liabilities: | | |
| Accrued compensated absences | 1,601,156 | 1,524,489 |
| Net pension liability | 655,221 | - |
| Other | 39,036 | 110,299 |
| Total other liabilities | 2,295,413 | 1,634,788 |
| Long-term debt: | | |
| Water revenue bonds | 139,430,000 | 143,990,000 |
| Unamortized premiums/discounts | 2,702,182 | 2,866,890 |
| Total long-term debt | 142,132,182 | 146,856,890 |
| Total liabilities | 155,229,153 | 157,852,959 |
| Deferred inflows of resources: | | |
| Pension inflow | 196,595 | 829,180 |
| Total deferred inflows of resources | 196,595 | 829,180 |
| Total liabilities and deferred inflows of resources | 155,425,748 | 158,682,139 |
| Net position | | |
| Net investment in capital assets | 138,069,365 | 110,579,425 |
| Restricted for: | | |
| Debt service | 1,520,100 | 1,369,655 |
| Other | 2,784 | 5,707 |
| Unrestricted | 23,401,426 | 45,044,390 |
| Total net position | 162,993,675 | 156,999,177 |
| Total liabilities, deferred inflows, and net position | $ 318,419,423 | $ 315,681,316 |

The accompanying notes are an integral part of these financial statements.

# Knoxville Utilities Board Water Division

## Statements of Revenues, Expenses and Changes in Net Position

## Years Ended June 30, 2016 and 2015

| | 2016 | 2015 |
|---|---|---|
| Operating revenues | $ 47,453,401 | $ 44,173,190 |
| Operating expenses | | |
| Treatment | 4,186,197 | 3,789,101 |
| Distribution | 12,644,428 | 13,045,508 |
| Customer service | 1,666,099 | 1,653,476 |
| Administrative and general | 4,838,122 | 4,206,064 |
| Provision for depreciation | 9,055,221 | 7,794,763 |
| Taxes and tax equivalents | 3,717,163 | 3,621,768 |
| Total operating expenses | 36,107,230 | 34,110,680 |
| Operating income | 11,346,171 | 10,062,510 |
| Non-operating revenues (expenses) | | |
| Contributions in aid of construction | 895,530 | 475,386 |
| Interest and dividend income | 194,146 | 134,691 |
| Interest expense | (5,611,878) | (5,421,300) |
| Amortization of debt costs | (38,926) | 1,262 |
| Write-down of plant for costs recovered through contributions | (895,530) | (475,386) |
| Other | (196,211) | (23,992) |
| Total non-operating revenues (expenses) | (5,652,869) | (5,309,339) |
| Change in net position before capital contributions | 5,693,302 | 4,753,171 |
| Capital contributions | 301,196 | 232,696 |
| Change in net position | 5,994,498 | 4,985,867 |
| Net position, beginning of year, as previously reported | 156,999,177 | 152,112,627 |
| Change in method of accounting for pension | - | (99,317) |
| Net position, beginning of year, as restated | 156,999,177 | 152,013,310 |
| Net position, end of year | $ 162,993,675 | $ 156,999,177 |

The accompanying notes are an integral part of these financial statements.

# Knoxville Utilities Board Water Division
## Statements of Cash Flows
## Years Ended June 30, 2016 and 2015

| | 2016 | 2015 |
|---|---|---|
| Cash flows from operating activities: | | |
| Cash receipts from customers | $ 46,572,780 | $ 43,258,927 |
| Cash receipts from other operations | 1,132,220 | 585,142 |
| Cash payments to suppliers of goods or services | (13,130,199) | (14,012,339) |
| Cash payments to employees for services | (10,805,634) | (9,284,435) |
| Payment in lieu of taxes | (2,976,406) | (2,943,719) |
| Net cash provided by operating activities | 20,792,761 | 17,603,576 |
| Cash flows from capital and related financing activities: | | |
| Net proceeds from bond issuance | - | 27,817,078 |
| Principal paid on revenue bonds and notes payable | (4,410,000) | (3,765,000) |
| Decrease (increase) in unused bond proceeds | 9,928,179 | (9,928,179) |
| Interest paid on revenue bonds and notes payable | (5,377,407) | (5,212,045) |
| Acquisition and construction of water plant | (32,992,061) | (26,693,360) |
| Changes in water bond fund, restricted | (384,915) | (86,174) |
| Proceeds received on disposal of plant | 9,435 | - |
| Cash received from developers and individuals for capital purposes | 895,530 | 475,386 |
| Net cash used in capital and related financing activities | (32,331,239) | (17,392,294) |
| Cash flows from investing activities: | | |
| Purchase of investment securities | (882,048) | (2,243,833) |
| Maturities of investment securities | 410,830 | 8,053,080 |
| Interest received | 193,235 | 142,666 |
| Other property and investments | (95,216) | (37,162) |
| Net cash provided by (used in) investing activities | (373,199) | 5,914,751 |
| Net increase (decrease) in cash and cash equivalents | (11,911,677) | 6,126,033 |
| Cash and cash equivalents, beginning of year | 21,304,494 | 15,178,461 |
| Cash and cash equivalents, end of year | $ 9,392,817 | $ 21,304,494 |
| **Reconciliation of operating income to net cash provided by operating activities** | | |
| Operating income | $ 11,346,171 | $ 10,062,510 |
| Adjustments to reconcile operating income to net cash provided by operating activities: | | |
| Depreciation expense | 9,331,667 | 8,008,940 |
| Changes in operating assets and liabilities: | | |
| Accounts receivable | (373,069) | (421,148) |
| Inventories | (183,799) | (45,461) |
| Prepaid expenses | (10,500) | 5,317 |
| Other assets | (40,478) | (455,412) |
| Sales tax collections payable | 18,323 | 28,506 |
| Accounts payable and accrued expenses | 737,964 | 308,054 |
| Customer deposits plus accrued interest | 37,744 | 34,791 |
| Other liabilities | (71,262) | 77,479 |
| Net cash provided by operating activities | $ 20,792,761 | $ 17,603,576 |
| Noncash capital activities: | | |
| Acquisition of plant assets through developer contributions | $ 301,196 | $ 232,696 |

The accompanying notes are an integral part of these financial statements.

## 1. Description of Business

Knoxville Utilities Board (KUB), comprised of the Electric Division, Gas Division, Water Division, and Wastewater Division (Divisions), is reported as a component unit enterprise fund in the financial statements of the City of Knoxville. KUB's responsibility is to oversee the purchase, production, distribution, and processing of electricity, natural gas, water, and wastewater services. A seven-member Board of Commissioners (Board) governs KUB. The Board has all powers to construct, acquire, expand, and operate the Divisions. It has full control and complete jurisdiction over the management and operation of the Divisions including setting rates. The Water Division (Division) provides services to certain customers in Knox County and in two surrounding counties in East Tennessee. The Division's accounts are maintained in conformity with the Uniform System of Accounts of the National Association of Regulatory Utility Commissioners (NARUC) and the Governmental Accounting Standards Board (GASB), as applicable. The financial statements present only the Water Division and do not purport to, and do not, present fairly the consolidated financial position of Knoxville Utilities Board at June 30, 2016 and 2015, and the changes in its financial position for the years then ended in conformity with accounting principles generally accepted in the United States of America.

## 2. Significant Accounting Policies

### Basis of Accounting

In conformity with Generally Accepted Accounting Principles (GAAP), KUB follows the provisions of GASB Statement No. 34 (Statement No. 34), *Financial Statements – and Management's Discussion and Analysis – for State and Local Governments* as amended by GASB Statement No. 63 (Statement No. 63), *Financial Reporting of Deferred Outflows of Resources, Deferred Inflows of Resources and Net Position.* Statement No. 34 established standards for external financial reporting for all state and local governmental entities. Under Statement No. 63, financial statements include deferred outflows of resources and deferred inflows of resources, in addition to assets and liabilities, and will report *net position* instead of net assets. In addition, KUB follows GASB Statement No. 62 (Statement No. 62), *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements* as it relates to certain items for regulatory accounting. Regulatory accounting allows a regulated utility to defer a cost (a regulatory asset) or recognize an obligation (a regulatory liability) if it is probable that through the rate making process, there will be a corresponding increase or decrease in future revenues. Accordingly, KUB has recognized certain regulatory assets and regulatory liabilities in the accompanying Statements of Net Position.

The financial statements are prepared on the accrual basis of accounting, whereby revenues are recognized when earned and expenses are recognized when incurred. The accounting and financial reporting treatment applied to the Division is determined by measurement focus. The transactions of the Division are accounted for on a flow of economic resources measurement focus. With this measurement focus, all assets and all liabilities associated with the operations are included on the Statement of Net Position. Net position (i.e., total assets and deferred outflows of resources net of total liabilities and deferred inflows of resources) is segregated into net investment in capital assets, restricted for capital activity and debt service, and unrestricted components.

### Recently Adopted New Accounting Pronouncements

In February 2015, the Governmental Accounting Standards Board (GASB) issued Statement No. 72 (Statement No. 72), *Fair Value Measurement and Application.* Statement No. 72 is intended to provide guidance for determining a fair value measurement for financial reporting purposes and for applying fair value to certain investments and disclosures related to all fair value measurements.

In June 2015, the GASB issued GASB Statement No. 73 (Statement No. 73), *Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provision of GASB Statements 67 and 68.* The requirements of this Statement will improve financial reporting by establishing a single framework for the presentation of information about pensions and enhance comparability.

In June 2015, the GASB issued GASB Statement No. 76 (Statement No. 76), *The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments*. The objective of this Statement is to simplify the hierarchy of generally accepted accounting principles (GAAP) used to prepare financial statements of state and local governmental entities. This Statement supersedes Statement No. 55, *The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments,* and amends Statement No. 62, *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements*, paragraphs 64, 74, and 82.

In December 2015, the GASB issued GASB Statement No. 79 (Statement No. 79), *Certain External Investment Pools and Pool Participants.* This statement establishes criteria for an external investment pool to qualify for making the election to measure all of its investments at amortized cost for financial reporting purposes.

Statements No. 72, 73, 76, and 79 are effective for fiscal years beginning after June 15, 2015.

### Water Plant

Water plant and other property are stated on the basis of original cost. The cost of current repairs and minor replacements is charged to operating expense. The cost of renewals and improvements is capitalized. The original cost of utility plant assets retired or otherwise disposed of and the cost of removal less salvage value is charged to accumulated depreciation. When other property is retired, the related asset and accumulated depreciation are removed from the accounts, and the gain or loss is included in the results of operations.

The provision for depreciation of water plant in service is based on the estimated useful lives of the assets, which range from three to sixty-seven years, and is computed using the straight-line method. Pursuant to NARUC, the caption "Provision for depreciation" in the Statements of Revenues, Expenses and Changes in Net Position does not include depreciation for transportation equipment of $276,446 in fiscal year 2016 and $214,178 in fiscal year 2015. Under regulatory accounting, interest costs are expensed as incurred with construction of plant assets.

### Operating Revenue

Operating revenue consists primarily of charges for services provided by the principal operations of the KUB Water Division. Operating revenue is recorded when the service is rendered, on a cycle basis, and includes an estimate of unbilled revenue. Revenues are reported net of bad debt expense of $140,244 in fiscal year 2016 and $169,110 in fiscal year 2015.

### Non-operating Revenue

Non-operating revenue consists of revenues that are related to financing and investing types of activities and result from non-exchange transactions or ancillary activities.

### Expense

When an expense is incurred for purposes for which there are both restricted and unrestricted net assets available, it is KUB’s policy to apply those expenses to restricted net assets to the extent such are available and then to unrestricted net assets.

## Net Position

GASB Statement No. 63 requires the classification of net position into three components – net investment in capital assets; net position-restricted; and net position-unrestricted.

These classifications are defined as follows:

- Net investment in capital assets – This component of net position consists of capital assets, including restricted capital assets, net of accumulated depreciation and reduced by the outstanding balances of any bonds, mortgages, notes, or other borrowings that are attributable to the acquisition, construction, or improvement of those assets. Deferred outflows of resources and deferred inflows of resources that are attributable to the acquisition, construction, or improvement of those assets or related debt also should be included in this component of net position. If there are significant unspent related debt proceeds at year end, the portion of the debt attributable to the unspent proceeds are not included in the calculation of net investment in capital assets. Rather, that portion of the debt is included in the same net position component as the unspent proceeds.

- Net position-restricted – This component of net position consists of restricted assets reduced by liabilities and deferred inflows of resources related to those assets. Generally, a liability relates to restricted assets if the asset results from a resource flow that also results in the recognition of a liability or if the liability will be liquidated with the restricted assets reported.

- Net position-unrestricted – This component of net position consists of assets, deferred outflows of resources, liabilities, and deferred inflows of resources that are not included in the determination of net investment in capital assets or the restricted component of net position.

## Contributions in Aid of Construction and Capital Contributions

Contributions in aid of construction are cash collections from customers or others for a particular purpose, generally the construction of new facilities to serve new customers in excess of the investment KUB is willing to make for a particular incremental revenue source. KUB reduces the plant account balances to which contributions relate by the actual amount of the contribution and recognizes the contributions as non-operating revenue in accordance with Statement No. 62.

Capital contributions represent contributions of utility plant infrastructure constructed by developers and others in industrial parks and other developments, and transferred to KUB upon completion of construction and the initiation of utility service. In accordance with GASB Statement No. 33, *Accounting and Financial Reporting for Nonexchange Transactions*, such contributions are recognized as revenues and capital assets upon receipt.

## Inventories

Inventories, consisting of plant materials and operating supplies, are valued at the lower of average cost or replacement value.

## Change in Method of Accounting for Pension

In June 2012, the Governmental Accounting Standards Board (GASB) issued Statement No. 68, *Accounting and Financial Reporting for Pensions – An Amendment of GASB Statement No. 27*, which revises existing standards of financial reporting for pensions. In addition, during November 2013, GASB issued Statement No. 71, *Pension Transition for Contributions Made Subsequent to the Measurement Date*, which requires deferred outflow of resources to be recognized for any contributions made subsequent to the measurement date of the beginning net pension liability. These standards were adopted by KUB in 2015 and resulted in a restatement of 2015 beginning net position of $763,975 (Division's share $99,317).

### Pension Plan

KUB's employees are participants in the Knoxville Utilities Board Pension Plan as authorized by the Charter of the City of Knoxville §1107(J) (Note 10). KUB's policy is to fully fund the annual actuarially determined contributions. As required by GASB Statement No. 68, KUB measures net pension liability as total pension liability less the amount of the Plan's fiduciary net position. The amounts reported as of June 30, 2016 and 2015 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2016 and 2015 are based on a December 31, 2015 and 2014 measurement date, respectively.

### Investments

Investments are carried at fair value as determined by quoted market prices at the reporting date.

### Self-Insurance

KUB has established self-insurance programs covering portions of workers' compensation, employee health, environmental liability, general liability, property and casualty liability, and automobile liability claims. A liability is accrued for claims as they are incurred. When applicable, claims in excess of the self-insured risk are covered by KUB's insurance carrier. Additionally, KUB provides certain lifetime health benefits to eligible retired employees under a self-insurance plan administered by a third party.

### Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. These estimates are based on historical experience and various other assumptions that KUB believes are reasonable under the circumstances. However, future events are subject to change and the best estimates and judgments routinely require adjustment. Estimates are used for, but not limited to, inventory valuation, allowance for uncollectible accounts, depreciable lives of plant assets, unbilled revenue volumes, pension trust valuations, OPEB trust valuations, insurance liability reserves, and potential losses from contingencies and litigation. Actual results could differ from those estimates.

### Restricted and Designated Assets

Certain assets are restricted by bond resolutions for the construction of utility plant and debt repayment. Certain additional assets are designated by management for contingency purposes and economic development.

### Cash Equivalents

For purposes of the Statements of Cash Flows, KUB considers all unrestricted and undesignated highly liquid investments with an original maturity of three months or less when purchased to be cash equivalents.

### Deferred Outflows and Inflows of Resources

Deferred outflows of resources are items previously reported as assets related to the acquisition of assets or related debt which are amortized over the life of the asset or debt. Deferred inflows of resources are items previously reported as liabilities related to the acquisition of assets or related debt which are amortized over the life of the asset or debt. KUB records costs associated with the gain or loss on refunding of debt as either a deferred outflow or inflow based on the parameters of Statement No. 65. Deferred outflows of resources also include employer pension contributions made subsequent to the measurement date of the net pension liability and before the end of the employer's reporting period in accordance with Statement No. 71. Deferred inflows and deferred outflows also include the net difference between projected and actual earnings on pension plan

investments and differences between expected and actual experience in accordance with Statement No. 68.

### Debt Premium/Discount

KUB records unamortized premium and discount on debt as a separate line item in the Long Term Debt section of the Financial Statements. Amortization of these amounts is recorded over the life of the applicable debt as amortization expense.

### Debt Issuance Costs

In accordance with regulatory accounting, KUB records debt issuance costs as an Other Asset. Amortization of these amounts is recorded over the life of the applicable debt as amortization expense.

### Deferred Gain/Loss on Refunding of Debt

KUB records costs associated with the gain or loss on refunding of debt as either a deferred outflow or inflow based on the parameters of Statement No. 65. Amortization of these amounts is recorded over the life of the applicable debt as amortization expense.

### Compensated Absences

KUB accrues a liability for earned but unpaid paid-time off (PTO) days.

### Subsequent Events

KUB has evaluated events and transactions through October 27, 2016, the date these financial statements were issued, for items that should potentially be recognized or disclosed. KUB sold $25 million in water system revenue bonds in July 2016 for the purpose of funding water system capital improvements in fiscal year 2017. The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.72 percent. KUB sold $20.9 million in water system revenue refunding bonds in July 2016 with an average interest rate of 2.5 percent to advance refund $19.9 million of outstanding bonds with an average interest rate of 4.18 percent. The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.07 percent. The net proceeds of $22 million (after payment of $0.3 million in underwriting fees and other issuance costs plus premium of $1 million and an additional issuer equity contribution of $0.4 million) were used to purchase U.S. government securities. Those securities were deposited in an irrevocable trust with an escrow agent to provide for all future debt service payments on the bonds. As a result, the bonds will be considered defeased and the liability for those bonds will be removed from the financial statements. This refunding decreases total debt service payments over the next 17 years by $2.5 million resulting in an economic gain (difference between the present values of the debt service payments on the old and new debt) of $2.2 million.

### Recently Issued Accounting Pronouncements

In June 2015, the GASB issued two related Statements that affect accounting and financial reporting by state and local governments for postemployment benefits other than pensions (OPEB). GASB Statement No. 74 (Statement No. 74), *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans,* addresses reporting by OPEB plans that administer benefits on behalf of governments. GASB Statement No. 75 (Statement No. 75), *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions,* addresses reporting by governments that provide OPEB to their employees. Statement No. 74 is effective for fiscal years beginning after June 15, 2016, and Statement No. 75 is effective for fiscal years beginning after June 15, 2017.

In March 2016, the GASB issued GASB Statement No. 82 (Statement No. 82), *Pension Issues – An amendment of GASB Statements No. 67, No. 68 and No. 73*. The objective of this Statement is to address certain issues that have been raised with respect to the presentation of payroll-related measures in required supplementary information, the selection of assumptions and treatment of deviations from the guidance in an Actuarial Standard of Practice for financial reporting purposes and the classification of payments made by employers to satisfy employee contribution obligations. Statement No. 82 is effective for fiscal years beginning after June 15, 2016.

KUB has not elected early implementation of these standards and has not completed the process of evaluating the impact of these statements on its financial statements.

## 3. Deposits and Investments

KUB follows the provisions of Statement No. 40 of the Governmental Accounting Standards Board, *Deposit and Investment Risk Disclosures an amendment of GASB Statement No. 3*. This Statement establishes and modifies disclosure requirements for state and local governments related to deposit and investment risks. KUB classifies its fair value measurements within the fair value hierarchy established by Statement No. 72 of the Governmental Accounting Standards Board, *Fair Value Measurement and Application*.

KUB's investment policy provides the framework for the administration and investment of cash deposits. The investment policy follows Tennessee State law and defines the parameters under which KUB funds should be invested. State law authorizes KUB to invest in obligations of the United States Treasury, its agencies and instrumentalities; certificates of deposit; repurchase agreements; money market funds; and the State Treasurer's Investment Pool.

*Interest Rate Risk.* KUB's primary investment objectives are to place investments in a manner to ensure the preservation of capital, remain sufficiently liquid to meet all operating requirements, and maximize yield of return. KUB minimizes its exposure to interest rate risk by adhering to Tennessee State law requirements for the investment of public funds. This includes limiting investments to those types described above and limiting maturity horizons. The maximum maturity is four years from the date of investment. KUB also limits its exposure by holding investments to maturity unless cash flow requirements dictate otherwise.

*Credit Risk.* KUB's investment policy, as required by state law, is to apply the prudent-person rule: Investments are made with judgment and care, under circumstances then prevailing, which persons of prudence, discretion, and intelligence exercise in the management of their own affairs, not for speculation, but for investment, considering the probable income to be derived, as well as the probable safety of their capital. KUB's Agency Bond investments are rated Aaa by Moody's Investors Service.

*Custodial Credit Risk*. KUB's investment policy limits exposure to custodial credit risk by restricting insurance limits are collateralized with government securities held in KUB's name by a third-party custodian bank(s) acting as KUB's agent(s), or through the State of Tennessee's collateral pool. Financial institutions that participate in the collateral pool are subject to special assessment; therefore, the deposits are considered insured. A portion of KUB's investments are generally held in the State of Tennessee Local Government Investment Pool (LGIP). The LGIP is a part of the State Pooled Investment Fund and is sponsored by the State of Tennessee Treasury Department. Tennessee Code Annotated ¶9-4-701 *et seq*. authorizes local governments to invest in the LGIP. None of KUB's investments are exposed to custodial credit risk.

Classification of deposits and investments per Statement of Net Position:

| | | 2016 | | 2015 |
|---|---|---|---|---|
| Current assets | | | | |
| Cash and cash equivalents | $ | 9,392,817 | $ | 21,304,494 |
| Short-term contingency fund investments | | 4,293,789 | | 411,198 |
| Other assets | | | | |
| Long-term contingency fund investments | | 8,350,127 | | 11,726,424 |
| Restricted assets | | | | |
| Unused bond proceeds | | - | | 9,927,990 |
| Water bond fund | | 3,354,126 | | 2,969,210 |
| Other funds | | 2,784 | | 5,707 |
| | $ | 25,393,643 | $ | 46,345,023 |

The above amounts do not include accrued interest of $34,215 in fiscal year 2016 and $24,839 in fiscal year 2015. Interest income is recorded on an accrual basis.

Investments and maturities of KUB's deposits and investments as held by financial institutions as of June 30, 2016:

| | Deposit and Investment Maturities (in Years) | | | | | |
|---|---|---|---|---|---|---|
| | | Fair Value | | Less Than 1 | | 1-5 |
| Supersweep NOW and Other Deposits | $ | 10,647,281 | $ | 10,647,281 | $ | - |
| State Treasurer's Investment Pool | | 1,297,013 | | 1,297,013 | | - |
| Agency Bonds | | 14,914,916 | | 4,293,789 | | 10,621,127 |
| Certificates of deposits | | 2,305,263 | | 2,057,013 | | 248,250 |
| | $ | 29,164,473 | $ | 18,295,096 | $ | 10,869,377 |

KUB categorizes its fair value measurements within the fair value hierarchy established by Statement No. 72 of the Governmental Accounting Standards Board, *Fair Value Measurement and Application*. The hierarchy is based on the valuation inputs used to measure the fair value of an asset with a maturity at purchase greater than one year. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs.

KUB has the following recurring fair value measurements as of June 30, 2016:

- U.S. Agency bonds of $10,621,127, which have a maturity at purchase of greater than one year, are valued using quoted market prices (Level 1 inputs)
- Certificates of deposits of $248,250, which have a maturity at purchase of greater than one year, are valued at interest rates and yield curves observable at commonly quoted intervals (Level 2 inputs)

KUB measures investments with a maturity at purchase of one year or less at amortized cost, which is considered a fair value equivalent due to their nature. Investments in the State Treasurer's Investment Pool are measured at net asset value (NAV) per share.

## 4. Accounts Receivable

Accounts receivable consists of the following:

| | 2016 | 2015 |
|---|---|---|
| Wholesale and retail customers | | |
| Billed services | $ 3,386,932 | $ 3,275,895 |
| Unbilled services | 1,846,174 | 1,596,039 |
| Other | 185,487 | 164,497 |
| Allowance for uncollectible accounts | (58,504) | (49,412) |
| | $ 5,360,089 | $ 4,987,019 |

## 5. Accounts Payable and Accruals

Accounts payable and accruals were composed of the following:

| | 2016 | 2015 |
|---|---|---|
| Trade accounts | $ 2,739,011 | $ 1,832,317 |
| Salaries and wages | 350,902 | 265,669 |
| Self-insurance liabilities | 228,605 | 220,793 |
| | $ 3,318,518 | $ 2,318,779 |

## 6. Long-Term Obligations

Long-term debt consists of the following:

| | Balance June 30, 2015 | Additions | Payments | Defeased | Balance June 30, 2016 | Amounts Due Within One Year |
|---|---|---|---|---|---|---|
| S-2005 - 3.5 - 5.0% | $ 6,735,000 | $ - | $ 440,000 | $ - | $ 6,295,000 | $ 465,000 |
| T-2007 - 4.0 - 5.5% | 1,450,000 | - | 700,000 | - | 750,000 | 750,000 |
| U-2009 - 3.0 - 4.5% | 23,450,000 | - | 825,000 | - | 22,625,000 | 875,000 |
| W-2011 - 2.0 - 4.0% | 23,350,000 | - | 550,000 | - | 22,800,000 | 550,000 |
| X-2012 - 3.0 - 5.0% | 9,150,000 | - | 485,000 | - | 8,665,000 | 515,000 |
| Y-2013 - 3.0 - 4.0% | 9,235,000 | - | 265,000 | - | 8,970,000 | 280,000 |
| Z-2013 - 2.0 - 5.0% | 24,150,000 | - | 475,000 | - | 23,675,000 | 500,000 |
| AA-2014 - 2.0 - 4.0% | 7,875,000 | - | 150,000 | - | 7,725,000 | 150,000 |
| BB-2015 - 2.0 - 5.0% | 23,005,000 | - | 170,000 | - | 22,835,000 | 100,000 |
| CC-2015 - 2.0 - 4.0% | 20,000,000 | - | 350,000 | - | 19,650,000 | 375,000 |
| Total bonds | $ 148,400,000 | $ - | $ 4,410,000 | $ - | $ 143,990,000 | $ 4,560,000 |
| Unamortized Premium | 2,866,890 | - | 164,708 | - | 2,702,182 | - |
| Total long term debt | $ 151,266,890 | $ - | $ 4,574,708 | $ - | $ 146,692,182 | $ 4,560,000 |

| | Balance June 30, 2014 | Additions | Payments | Defeased | Balance June 30, 2015 | Amounts Due Within One Year |
|---|---|---|---|---|---|---|
| R-2005 - 3.5 - 5.0% | $ 255,000 | $ - | $ 255,000 | $ - | $ - | $ - |
| S-2005 - 3.5 - 5.0% | 7,160,000 | - | 425,000 | - | 6,735,000 | 440,000 |
| T-2007 - 4.0 - 5.5% | 24,350,000 | - | 675,000 | 22,225,000 | 1,450,000 | 700,000 |
| U-2009 - 3.0 - 4.5% | 24,250,000 | - | 800,000 | - | 23,450,000 | 825,000 |
| W-2011 - 2.0 - 4.0% | 23,900,000 | - | 550,000 | - | 23,350,000 | 550,000 |
| X-2012 - 3.0 - 5.0% | 9,610,000 | - | 460,000 | - | 9,150,000 | 485,000 |
| Y-2013 - 3.0 - 4.0% | 9,260,000 | - | 25,000 | - | 9,235,000 | 265,000 |
| Z-2013 - 2.0 - 5.0% | 24,600,000 | - | 450,000 | - | 24,150,000 | 475,000 |
| AA-2014 - 2.0 - 4.0% | - | 8,000,000 | 125,000 | - | 7,875,000 | 150,000 |
| BB-2015 - 2.0 - 5.0% | - | 23,005,000 | - | - | 23,005,000 | 170,000 |
| CC-2015 - 2.0 - 4.0% | - | 20,000,000 | - | - | 20,000,000 | 350,000 |
| Total bonds | $ 123,385,000 | $ 51,005,000 | $ 3,765,000 | $ 22,225,000 | $ 148,400,000 | $ 4,410,000 |
| Unamortized Premium | 1,518,734 | 1,493,612 | 102,471 | 42,985 | 2,866,890 | - |
| Total long term debt | $ 124,903,734 | $ 52,498,612 | $ 3,867,471 | $ 22,267,985 | $ 151,266,890 | $ 4,410,000 |

Debt service over remaining term of the debt is as follows:

| Fiscal Year | Total Principal | Interest | Grand Total |
|---|---|---|---|
| 2017 | $ 4,560,000 | $ 5,502,077 | $ 10,062,077 |
| 2018 | 4,710,000 | 5,308,927 | 10,018,927 |
| 2019 | 4,870,000 | 5,127,527 | 9,997,527 |
| 2020 | 5,100,000 | 4,923,477 | 10,023,477 |
| 2021 | 5,280,000 | 4,746,427 | 10,026,427 |
| 2022 - 2026 | 29,580,000 | 20,683,800 | 50,263,800 |
| 2027 - 2031 | 34,690,000 | 14,947,082 | 49,637,082 |
| 2032 - 2036 | 26,225,000 | 8,892,033 | 35,117,033 |
| 2037 - 2041 | 19,725,000 | 4,382,187 | 24,107,187 |
| 2042 - 2045 | 9,250,000 | 901,469 | 10,151,469 |
| Total | $ 143,990,000 | $ 75,415,006 | $ 219,405,006 |

The Division has pledged sufficient revenue, after deduction of all current operating expenses (exclusive of tax equivalents), to meet bond principal and interest payments when due. The requirements for the bonds are being met through monthly deposits to the Water Bond Fund, as required by the bond covenants. As of June 30, 2016, these bond covenants had been satisfied.

During fiscal year 2006, KUB’s Water Division issued Series S 2005 bonds to retire certain existing debt and fund water system capital improvements. Concurrent with the issuance of these bonds, KUB transferred funds to an irrevocable trust to pay a portion of the Series P 2001 bonds, as such amounts mature.

During fiscal year 2008, KUB’s Water Division issued Series T 2007 bonds to fund water system capital improvements.

During fiscal year 2010, KUB’s Water Division issued Series U 2009 bonds to fund water system capital improvements.

During fiscal year 2012, KUB's Water Division issued Series W 2011 bonds to fund water system capital improvements. KUB's Water Division also issued Series X 2012 bonds to retire Series Q 2004 bonds.

During fiscal year 2013, KUB's Water Division issued Series Y 2013 bonds to retire a portion of outstanding Series R 2005 bonds.

During fiscal year 2014, KUB's Water Division issued Series Z 2013 bonds to fund water system capital improvements.

During fiscal year 2015, KUB's Water Division issued Series BB 2015 bonds to retire a portion of outstanding Series T 2007 bonds. KUB's Water Division also issued Series AA 2014 and Series CC 2015 bonds to fund water system capital improvements.

In prior years, certain revenue bonds were defeased by placing the proceeds of new bonds in an irrevocable trust to provide for all future debt service payments on the old bonds. Accordingly, the liability for the defeased bonds, $22.2 million at June 30, 2016, and the trust account assets are not included in the financial statements.

Other liabilities consist of the following:

| | Balance June 30, 2015 | Increase | Decrease | Balance June 30, 2016 |
|---|---|---|---|---|
| Accrued compensated absences | $ 1,524,489 | $ 2,496,404 | $ (2,419,737) | $ 1,601,156 |
| Other | 110,299 | 117,737 | (189,000) | 39,036 |
| | $ 1,634,788 | $ 2,614,141 | $ (2,608,737) | $ 1,640,192 |

## 7. Lease Commitments

KUB has non-cancelable operating lease commitments for office equipment, property, and vehicles, summarized for the following fiscal years:

| | |
|---|---|
| 2017 | $ 59,805 |
| 2018 | 57,857 |
| 2019 | 33,869 |
| 2020 | 1,065 |
| Total operating minimum lease payments | $ 152,596 |

## 8. Capital Assets

Capital asset activity was as follows:

| | Balance June 30, 2015 | Increase | Decrease | Balance June 30, 2016 |
|---|---|---|---|---|
| **Production Plant** | $ 727,863 | $ - | $ - | $ 727,863 |
| **Pumping & Treatment Plant** | 65,525,607 | 12,961,992 | (280,318) | 78,207,281 |
| **Distribution Plant** | | | | |
| Distribution Mains | 156,114,567 | 17,443,111 | (798,145) | 172,759,533 |
| Transmission Mains | 27,338,065 | 3,580,781 | (471,020) | 30,447,826 |
| Services & Meters | 29,722,371 | 2,759,765 | (2,537,255) | 29,944,881 |
| Other Accounts | 22,220,382 | 1,321,165 | (370,155) | 23,171,392 |
| **Total Distribution Plant** | $ 235,395,385 | $ 25,104,822 | $ (4,176,575) | $ 256,323,632 |
| **Total General Plant** | 23,938,079 | 2,603,382 | (456,877) | 26,084,584 |
| **Total Water Plant** | $ 325,586,934 | $ 40,670,196 | $ (4,913,770) | $ 361,343,360 |
| Less Accumulated Depreciation | (103,077,327) | (9,373,580) | 4,868,529 | (107,582,378) |
| **Net Plant Assets** | $ 222,509,607 | $ 31,296,616 | $ (45,241) | $ 253,760,982 |
| Work In Progress | 35,629,152 | 32,415,132 | (40,547,642) | 27,496,642 |
| **Total Net Plant** | $ 258,138,759 | $ 63,711,748 | $ (40,592,883) | $ 281,257,624 |

| | Balance June 30, 2014 | Increase | Decrease | Balance June 30, 2015 |
|---|---|---|---|---|
| **Production Plant** | $ 727,863 | $ - | $ - | $ 727,863 |
| **Pumping & Treatment Plant** | 65,538,290 | 229,177 | (241,860) | 65,525,607 |
| **Distribution Plant** | | | | |
| Distribution Mains | 145,877,358 | 10,657,161 | (419,952) | 156,114,567 |
| Transmission Mains | 27,261,415 | 84,477 | (7,827) | 27,338,065 |
| Services & Meters | 29,841,733 | 882,602 | (1,001,964) | 29,722,371 |
| Other | 21,679,780 | 690,660 | (150,058) | 22,220,382 |
| **Total Distribution Plant** | $ 224,660,286 | $ 12,314,900 | $ (1,579,801) | $ 235,395,385 |
| **Total General Plant** | 22,552,206 | 1,612,164 | (226,291) | 23,938,079 |
| **Total Water Plant** | $ 313,478,645 | $ 14,156,241 | $ (2,047,952) | $ 325,586,934 |
| Less Accumulated Depreciation | (97,290,740) | (8,049,680) | 2,263,093 | (103,077,327) |
| **Net Plant Assets** | $ 216,187,905 | $ 6,106,561 | $ 215,141 | $ 222,509,607 |
| Work In Progress | 23,517,782 | 26,268,395 | (14,157,025) | 35,629,152 |
| **Total Net Plant** | $ 239,705,687 | $ 32,374,956 | $ (13,941,884) | $ 258,138,759 |

## 9. Risk Management

KUB is exposed to various risks of loss related to active and retiree medical claims; injuries to workers; theft of, damage to, and destruction of assets; environmental damages; and natural disasters. Claims expenditures and liabilities are reported when it is probable that a loss has occurred and the amount of that loss can be reasonably estimated. These losses include an estimate of claims that have been incurred but not reported.

These liabilities are included in accrued expenses in the Statement of Net Position. The liability is KUB's best estimate based on available information. At June 30, 2016 and 2015, the amount of these liabilities was $228,605 and $220,793, respectively, resulting from the following changes:

| | **2016** | **2015** |
|---|---|---|
| Balance, beginning of year | $ 220,793 | $ 204,465 |
| Current year claims and changes in estimates | 1,825,029 | 1,840,260 |
| Claims payments | (1,817,217) | (1,823,932) |
| Balance, end of year | $ 228,605 | $ 220,793 |

## 10. Pension Plan

### Description of Plan

The Knoxville Utilities Board Pension Plan (the Plan) is a governmental plan as defined by the Employee Retirement Income Security Act of 1974 ("ERISA" or the "Act"), is not subject to any of the provisions of the Act, and was revised January 1, 2014 to include all prior approved amendments. The Plan is a single-employer contributory, defined benefit pension plan established by Knoxville Utilities Board ("KUB") Resolution No. 980 dated February 18, 1999, effective July 1, 1999, as authorized by the Charter of the City of Knoxville §1107(J). The Plan is designed to provide retirement, disability and death benefits to KUB employees. KUB administers the Plan through an Administrative Committee consisting of seven KUB employees that are appointed by KUB's President and CEO. Any amendments to the Plan involving costs not approved in the operating budget must be adopted by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Plan may be approved by KUB's President and CEO upon 60 days notification to the KUB Audit and Finance Committee. The Plan issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017. For purposes of this disclosure, presentation is on a consolidated basis unless division's share is specified.

Effective January 1, 2011, KUB closed the Plan such that persons employed or re-employed by KUB on or after January 1, 2011, are not eligible to participate, but that eligible employees hired prior to January 1, 2011, who have not separated from service, shall continue as Participants and to accrue benefits under the Plan.

Participants in the Plan consisted of the following as of December 31:

| | **2015** | **2014** |
|---|---|---|
| Inactive plan members: | | |
| Terminated vested participants | 39 | 40 |
| Retirees and beneficiaries | 628 | 627 |
| Active plan members | 692 | 725 |
| Total | 1,359 | 1,392 |

## Retirement Benefits

The Plan provides three benefit arrangements for KUB participants, retirees, and beneficiaries.

The Plan provides pension benefits through the Career Equity Program ("CEP") for eligible employees hired on or after January 1, 1999, and for eligible former "City System Plan A" participants who elected CEP coverage as of July 1, 1999. The guaranteed pension benefit payable to a participant who has completed five or more years of service (or reached the normal retirement date, if earlier) upon termination of KUB employment shall be a lump sum equal to the participant's average compensation times their benefit percentage, as defined in the Plan document, or an annuity may be chosen by the participant.

In addition, the Plan provided retirement benefits through "Plan A" for former City System Plan A participants who elected not to participate in the CEP. Plan A is a closed plan and is not available to KUB employees hired after July 1, 1999. Plan A provides for early retirement benefits with 25 years of service and normal retirement benefits at age 62 or later. Benefits provided to Plan A participants include several different forms of monthly annuity payments.

The Plan also provides retirement benefits through "Plan B" for former "City System Plan B" participants. Plan B is a closed plan providing benefits to participants not covered by Social Security. Benefits provided to Plan B participants include several different forms of monthly annuity payments available to participants.

Effective January 1, 2012, KUB began to provide for additional monthly supplements, which will not be subject to cost of living adjustments, to certain former employees and surviving dependents of former employees who are eligible for and have elected coverage under the KUB retiree medical plan and are eligible for Medicare. This was done to address the loss of drug coverage under the KUB retiree medical plan and to assist such individuals in obtaining prescription drug coverage under Medicare Part D.

## Contributions

Participation in Plan A requires employee contributions of 3 percent of the first $4,800 of annual earnings and 5 percent of annual earnings in excess of $4,800. Plan B participants may not make contributions to the Plan. KUB contributions are determined by the enrolled actuary of the Plan and equal the amount necessary to provide the benefits under the Plan determined by the application of accepted actuarial methods and assumptions. The method of funding shall be consistent with Plan objectives.

## Plan Funding

KUB maintains a Funding Policy for the Plan in accordance with Tennessee State Law. The primary goal of the Policy is to document the method KUB has adopted to provide assurance that future KUB and employee contributions and current Plan assets will be sufficient to fund all benefits expected to be paid to current active, inactive and retired Plan participants and their beneficiaries. Per the Funding Policy, KUB fully funds its annual Actuarially Determined Contribution.

### Investments

The Plan's investments are held by State Street Bank and Trust Company (the "Trustee"). The Plan's policy in regard to the allocation of invested assets is established by the Investment Committee and approved by the KUB Board of Commissioners and may only be amended by the KUB Board of Commissioners. It is the policy of the Investment Committee to pursue an investment strategy that reduces risk through the prudent diversification of the portfolio across a broad selection of distinct asset classes. The following was the Plan's adopted asset allocation policy as of December 31, 2015:

| Asset Class | Target Allocation |
|---|---|
| Domestic equity – large cap | 20% - 50% |
| Domestic equity – mid cap | 0% - 15% |
| Domestic equity – small cap | 0% - 15% |
| Domestic equity - convertible securities | 0% - 10% |
| Non-U.S. equity | 0% - 20% |
| Real estate equity | 0% - 10% |
| Fixed income – aggregate bonds | 5% - 25% |
| Fixed income – long-term bonds | 10% - 25% |
| Cash and deposits | 0% - 5% |

Contributions of $5,669,380 and $6,314,399 for 2014 and 2013, respectively, were made during KUB's fiscal years ending June 30, 2016 and 2015, respectively. Of these amounts, $737,019 and $820,872 are attributable to the Water Division. The contribution was determined as part of the January 1, 2014 valuation using the Individual Entry Age Normal funding method. The objective under this method is to fund each participant's benefits under the Plan as payments which are level as a percentage of salary, starting on the original participation date (employment date) and continuing until the assumed retirement, termination, disability or death. The actuarial valuation for the Plan year ending December 31, 2015 resulted in an actuarially determined contribution of $4,816,913 for the fiscal year ending June 30, 2017, based on the Plan's current funding policy. The Water Division's portion of this contribution is $626,199.

Subsequent to June 30, 2016, the actuarial valuation for the Plan year ending December 31, 2016 was completed. The actuarial valuation resulted in an actuarially determined contribution of $3,756,283 for the fiscal year ending June 30, 2018, based on the Plan's current funding policy. The Water Division's portion of this contribution is $488,317. For the Plan year ending December 31, 2016, the Plan's actuarial funded ratio was 103.04 percent.

The actuarial valuations for the Plan years ending December 31, 2015 and 2016, which determine the actuarially determined contribution for future fiscal years ending June 30, 2017 and 2018, have not been audited.

### Implementation of GASB 68

In fiscal year 2015, KUB adopted GASB Statement No. 68*, Accounting and Financial Reporting for Pensions – an amendment of GASB Statement No. 27*("GASB 68"), which requires measurement of the net pension liability as total pension liability less the amount of the Plan's fiduciary net position. The amounts reported as of June 30 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2016 and 2015 will be based on the December 31, 2015 and 2014 measurement date, respectively. The Division's share of the net pension liability at June 30, 2016 is $655,221 and the net pension asset at June 30, 2015 is $782,812.

GASB 68 requires certain disclosures related to the net pension liability of the Plan as disclosed below:

| | | **2015** | | **2014** |
|---|---|---|---|---|
| Total pension liability | $ | 204,502,350 | $ | 202,773,764 |
| Plan fiduciary net position | | 199,462,190 | | (208,795,394) |
| Plan's net pension liability (asset) | $ | 5,040,160 | $ | (6,021,630) |
| Plan fiduciary net position as a percentage of the total pension liability | | 97.54% | | 102.97% |

Changes in Net Pension Liability are as follows:

| | | Total Pension Liability (a) | | Increase (Decrease) Plan Fiduciary Net Position (b) | | Net Pension Liability (a) - (b) |
|---|---|---|---|---|---|---|
| Balances at December 31, 2014 | $ | 202,773,764 | $ | 208,795,394 | $ | (6,021,630) |
| Changes for the year: | | | | | | |
| Service cost | | 4,157,062 | | - | | 4,157,062 |
| Interest | | 14,812,784 | | - | | 14,812,784 |
| Differences between Expected and Actual Experience | | (1,890,334) | | - | | (1,890,334) |
| Changes of Assumptions | | - | | - | | - |
| Contributions - employer | | - | | 5,991,887 | | (5,991,887) |
| Contributions - rollovers | | - | | 482,060 | | (482,060) |
| Contributions - member | | - | | 5,486 | | (5,486) |
| Net investment income | | - | | (64,551) | | 64,551 |
| Benefit payments | | (15,350,926) | | (15,350,926) | | - |
| Administrative expense | | - | | (397,160) | | 397,160 |
| Net changes | | 1,728,586 | | (9,333,204) | | 11,061,790 |
| Balances at December 31, 2015 | $ | 204,502,350 | $ | 199,462,190 | $ | 5,040,160 |

*Actuarial Assumptions*

The total pension liability was determined by an actuarial valuation as of December 31, 2015 and 2014, using the following actuarial assumptions, applied to all periods included in the measurement:

| | |
|---|---|
| Actuarial cost method: | Individual entry age |
| Asset valuation method: | 5-year smoothed market |
| Amortization method: | Level dollar closed period with 28 years remaining as of January 1, 2013 and 27 years remaining as of January 1, 2014 |
| Discount rate: | 8% at January 1, 2013 and 7.5% at January 1, 2014 |
| Salary increases: | From 2.58% to 7.92% for January 1, 2013 and from 2.80% to 5.15% for January 1, 2014, based on years of service |
| Mortality: | Sex distinct RP-2000 Combined Mortality projected to 2018 using Scale AA for the January 1, 2013 valuation. Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA for the January 1, 2014 valuation |
| Inflation | 2.8 percent |

The actuarial assumptions used in the December 31, 2015 valuation were based on the results of an actuarial experience study for the period January 1, 2009 through December 31, 2013.

The long-term expected rate of return on Plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the Plan's target asset allocation as of December 31, 2015 and 2014 are summarized in the following table. The real rate of return reported for fixed income is for aggregate fixed income. The Plan has both aggregate and long duration fixed income.

| | **Long Term Expected Real Rate of Return** | |
|---|---|---|
| **Asset Class** | **2015** | **2014** |
| Domestic equity | 7.2% | 6.0% |
| Non-U.S. equity | 7.4% | 7.0% |
| Real estate equity | 6.5% | 5.7% |
| Fixed income | 3.7% | 1.8% |
| Cash and deposits | 2.6% | 0.5% |

*Discount rate*

The discount rate used to measure the total pension liability was 7.5 percent as of January 1, 2015 and 2014. The projection of cash flows used to determine the discount rate assumed that participant contributions will be made at the current contribution rate and that KUB contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

*Sensitivity of the net pension liability to changes in the discount rate*

The following presents the net pension liability of the Plan as of December 31, 2015, calculated using the discount rate of 7.5 percent, as well as what the Plan's net pension liability would be if it were calculated using a discount rate that is one percent lower (6.5 percent) or one percent higher (8.5 percent) than the current rate:

| | **1% Decrease (6.5%)** | **Current Discount Rate (7.5%)** | **1% Increase (8.5%)** |
|---|---|---|---|
| Plan's net pension liability | $ 17,128,897 | $ 5,040,160 | $ (5,963,331) |

### Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the year ended June 30, 2015, KUB recognized pension expense of $2,749,905 (Division’s share $357,488).

The impact of experience gains or losses and assumption changes on the Total Pension Liability are recognized in expense over the average expected remaining service life of all active and inactive members. As of the measurement date, this recognition period was 3.72 years. However, there were no experience gains or losses, and there were no assumption changes during the measurement year.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment gain of $7,972,887. $1,594,577 of that gain was recognized in the current year and an identical amount will be recognized in each of the next four years, resulting in a deferred inflow of resources of $6,378,310 (Division’s share $829,180). The table below summarizes the current balances of deferred outflows and deferred inflows of resources along with the net recognition over the next five years. In addition, KUB recorded a deferred outflow of resources of $3,157,199 (Division’s share $410,436) at June 30, 2015 for employer contributions made between December 31, 2014 and June 30, 2015.

| | Deferred Outflows of Resources | Deferred Inflows of Resources |
|---|---|---|
| Differences between expected and actual experience | $ - | $ - |
| Changes in assumptions | - | - |
| Net difference between projected and actual earnings on pension plan investments | - | 6,378,310 |
| Contributions subsequent to measurement date | 3,157,199 | - |
| Total | $ 3,157,199 | $ 6,378,310 |

For the year ended June 30, 2016, KUB recognized pension expense of $4,665,035 (Division’s share $606,455).

The impact of experience gains or losses and assumption changes on the Total Pension Liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2014, this average was 5.00 years. During the measurement year, there were no assumption or benefit changes. There was an experience gain of $1,890,334 with $378,067 of that recognized in the current year and in each of the next four years.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment loss of $15,382,915. $3,076,583 of that loss was recognized in the current year and an identical amount will be recognized in each of the next four years. Unrecognized investment gains from prior periods were $6,378,310 of which $1,594,577 was recognized as a reduction in pension expense in the current year.

Experience gains this year created a deferred inflow of resources of $1,512,267 (Division's share $196,595). The combination of unrecognized investment losses this year along with unrecognized net investment gains from prior periods results in a deferred outflow of resources as of December 31, 2015 of $7,522,599 (Division's share $977,938). The table below summarizes the current balances of deferred outflows and deferred inflows of resources along with the net recognition over future years. In addition, KUB recorded a deferred outflow of resources of $2,834,692 (Division's share $368,510) at June 30, 2016 for employer contributions made between December 31, 2015 and June 30, 2016.

| | Deferred Outflows of Resources | Deferred Inflows of Resources |
|---|---|---|
| Differences between expected and actual experience | $ - | $ 1,512,267 |
| Changes in assumptions | - | - |
| Net difference between projected and actual earnings on pension plan investments | 7,522,599 | - |
| Contributions subsequent to measurement date | 2,834,692 | - |
| Total | $ 10,357,291 | $ 1,512,267 |

Amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:

| Year ended June 30: | |
|---|---|
| 2017 | $ 3,938,630 |
| 2018 | 1,103,939 |
| 2019 | 1,103,938 |
| 2020 | 2,698,517 |
| Thereafter | - |

## 11. Defined Contribution Plan

The KUB Asset Accumulation 401(k) Plan (the "401(k) Plan") is a defined contribution 401(k) employee retirement savings plan covering eligible KUB employees established by the KUB Board of Commissioners in accordance with the Charter of the City of Knoxville, Tennessee. The 401(k) plan's assets are held in trust under an agreement between KUB and Fidelity Management Trust Company. Employees hired prior to January 1, 2011 may participate and receive a matching contribution of 50 percent of their own contribution up to a maximum match of 3 percent. Employees hired on or after January 1, 2011 have an enhanced 401(k) due to the closure of the Defined Benefit Pension Plan. They may participate and receive a matching contribution of 50 percent of their own contribution up to a maximum match of 3 percent. They also receive a nonelective KUB contribution of from 3 percent to 6 percent, depending on years of service, whether they contribute or not.

Matching contributions were previously remitted to the KUB Pension Plan (a separate defined benefit plan) in the name of the participant for employees hired prior to January 1, 2011. As of December 9, 2015, these Pension match assets moved from the KUB Pension Plan to the 401(k) Plan. Effective December 9, 2015, all matching contributions are remitted to the 401(k) Plan. The match and nonelective contributions for employees hired on or after January 1, 2011 are paid directly by KUB. KUB funded 401(k) matching contributions and nonelective contributions of

$1,739,057 (Division's share $226,077) and $1,593,350 (Division's share $207,135), respectively, for the years ended June 30, 2016 and 2015.

## 12. Other Post-Employment Benefits (OPEB)

The Governmental Accounting Standards Board (GASB) established standards for the measurement, recognition, and reporting of other post-employment benefits (OPEB). OPEB includes post-employment benefits other than pension, which, for KUB, is presently limited to post-employment health care. GASB Statement No. 45 (Statement No. 45) requires the recognition of the accrued OPEB liability for the respective year, plus the disclosure of the total unfunded liability.

KUB currently provides post-employment health care benefits to 585 former employees and 593 covered dependents. The cost of coverage is shared with retirees and beneficiaries. KUB recognizes its share of the cost of post-employment health care benefits as an expense as claims are paid.

KUB amended its Group Health Plan in 1999, eliminating post-employment health care benefits for all employees hired on or after July 1, 1999. As of June 30, 2016, 356 active employees were eligible for individual and dependent coverage at separation. To qualify, the employee must meet the Rule of 80 (age plus years of service) with a minimum of 20 years of service, and be enrolled in medical coverage on their last day.

In May 2006, the State of Tennessee adopted Tennessee Code Annotated, Title 8, Chapter 50, Part 12 authorizing governmental entities to establish Trusts for the purpose of pre-funding their respective OPEB liabilities.

Although Statement No. 45 does not require pre-funding of the liability, KUB has determined that it is in the long-term economic interest of KUB and its ratepayers to establish a Trust to pre-fund KUB's OPEB liability.

Knoxville Utilities Board Other Post-Employment Benefits Trust (the "Trust") is a single-employer Other Post-Employment Benefits Plan established by the Knoxville Utilities Board (KUB) Board of Commissioners through Resolution No. 1168, as amended, dated October 18, 2007. The applicable documentation was submitted to the State Funding Board and, in December 2007, the State Funding Board approved the Trust. The Trust was also approved by the Internal Revenue Service in June 2008. KUB administers the Trust through a Board of Trustees consisting of seven KUB employees that are appointed by KUB's President and CEO. Any amendments to the Trust involving costs not approved in the operating budget must be approved by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Trust may be approved by KUB's President and CEO upon 60 days notification to the KUB Audit and Finance Committee. The investment of all deposits to the Trust is governed by an Investment Policy, which was adopted by the KUB Board and approved by the State Funding Board.

KUB makes annual contributions to the Trust at an actuarially determined rate. Based on the date of retirement, certain retired plan members are required to contribute specified amounts monthly to maintain health insurance. Those who retired prior to July 1983 have no required monthly premiums for themselves or dependents. The retirees, or their surviving dependents, who retired between August 1983 and January 1998 are required to pay $250 per month for pre-Medicare family health insurance. For individuals who retired after January 1998, the required monthly premium for pre-Medicare health insurance is $250 for single coverage and $500 for family coverage. There is currently no premium for Medicare eligible retirees or dependents.

An actuarial valuation of KUB's Postretirement Benefit Plan was performed for the Trust as of January 1, 2014 for fiscal year June 30, 2015 and January 1, 2015 for fiscal year June 30, 2016.

The following table presents the OPEB cost for the year, the amount contributed to the Trust, and changes in the net OPEB obligation for fiscal year ending June 30:

| | | **2016** | **2015** |
|---|---|---|---|
| **a)** | Net OPEB Obligation/(Asset) at beginning of fiscal year | $ (174,410) | $ (177,322) |
| **b)** | Annual Required Contribution (ARC) | 953,221 | 3,497,372 |
| **c)** | Interest on Net OPEB Obligation/(Asset) | (13,081) | (14,186) |
| **d)** | Adjustment to ARC | (16,427) | (17,098) |
| **e)** | Annual OPEB Cost **(b+c-d)** | 956,567 | 3,500,284 |
| **f)** | Employer Contributions | 953,221 | 3,497,372 |
| **g)** | Net OPEB Obligation/(Asset) at end of fiscal year **(a+e-f)** | $ (171,064) | $ (174,410) |

KUB's annual OPEB cost, the percentage of annual OPEB cost contributed to the Trust, and the net OPEB obligation for fiscal year 2016 and the two preceding years were as follows:

**Schedule of Employer Contributions**

| Actuarial Valuation Date | Employer Fiscal Year | Annual Required Contribution | Fiscal Year Actual Contribution | Percentage Contributed | Net OPEB Obligation |
|---|---|---|---|---|---|
| 1/1/2012 | 6/30/2014 | 3,327,412 | 4,057,091 | 121.93% | (177,322) |
| 1/1/2013 | 6/30/2015 | 3,497,372 | 3,497,372 | 100.00% | (174,410) |
| 1/1/2014 | 6/30/2016 | 953,221 | 953,221 | 100.00% | (171,064) |

Total contributions to the OPEB Trust for the fiscal year ended June 30, 2016 were $953,221 (Division's share $123,919). The contribution to the Trust was consistent with the annual required contribution, as determined by the Postretirement Benefit Plan's actuarial valuation as of January 1, 2014, which was $953,221 (Division's share $123,919). As of June 30, 2016, the employer's OPEB obligation has been exceeded by $171,064 (Division's share $22,238).

The annual required contribution for the fiscal year ending June 30, 2017, as determined by the Plan's actuarial valuation as of January 1, 2015 is $620,015 (Division's share $80,602).

The actuarial valuation for the Plan as of January 1, 2016 has been completed. The valuation determined that the Plan's actuarial accrued liability was $45,118,624 (Division's share $5,865,421). The actuarial value of the Plan's assets was $48,510,796 (Division's share $6,306,403). As a result, the Plan's unfunded actuarial accrued liability was ($3,392,172) (Division's share ($440,982)). The Plan's actuarial funded ratio was 108 percent. Due to the future implementation of GASB 75, the contributions made for fiscal year ending June 30, 2018 will be the actuarially determined contribution instead of the annual required contribution and the actuarial cost method used to determine the contributions will change from the projected unit credit cost method to the entry age normal cost method. The actuarially determined contribution for fiscal year ending June 30, 2018 will be zero. See Required Supplementary Information for OPEB Schedule of Funding Progress.

The actuarial valuations dated January 1, 2015 and 2016, which determine the annual required contribution and actuarially determined contribution for future fiscal years ending June 30, 2017 and 2018, have not been audited.

Actuarial valuations involve estimates of the value of reported amounts and assumptions about the probability of events far into the future, and actuarially determined amounts are subject to continual revision as actual results are compared to past expectations and new estimates are made about the future.

The required schedule of funding progress immediately following the notes to the financial statements presents multi-year trend information about whether the actuarial value of Trust assets is increasing or decreasing over time relative to the actuarial accrued liability for benefits.

Calculations are based on the benefits provided under the terms of the substantive plan in effect at the time of each valuation and on the pattern of sharing of costs between the employer and plan members to that point.

Actuarial calculations reflect a long-term perspective. Consistent with that perspective, actuarial methods and assumptions used include techniques that are designed to reduce short-term volatility in actuarial accrued liabilities and the actuarial value of assets.

Identification of actuarial methods and significant assumptions used to determine the annual required contribution for the fiscal year ending June 30, 2016:

| | |
|---|---|
| I. Actuarial cost method | Projected unit credit cost method |
| II. Actuarial value of assets | Smoothed market value with phase-in method using a smoothing period of 5 years |
| III. Investment return | 7.5%, based on the expected portfolio return |
| Projected salary increases | N/A |
| Healthcare cost Trend: | |
| Medicare | 2014 - 2030+, ranging from 4.5% to 7.45% |
| Non-Medicare | 2014 - 2030+, ranging from 4.5% to 8.75% |
| IV. Amortization method | Level dollar closed (30-year) |
| Remaining amortization period | 22 years |

The Trust issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017.

## 13. Related Party Transactions

The Division, in the normal course of operations, is involved in transactions with the City of Knoxville and with other divisions of KUB. Such transactions for the years ended June 30, 2016 and 2015 are summarized as follows:

| | 2016 | 2015 |
|---|---|---|
| City of Knoxville | | |
| Amounts billed by the Division for utilities and related services | $ 4,005,989 | $ 3,894,557 |
| Payments by the Division in lieu of property tax | 2,976,406 | 2,943,719 |
| Payments by the Division for services provided | 607,858 | 507,095 |
| Other divisions of KUB | | |
| Amounts billed to other divisions for utilities and related services provided | 397,610 | 327,109 |
| Interdivisional rental expense | 207,433 | 214,469 |
| Interdivisional rental income | 127,304 | 92,415 |
| Amounts billed to the Division by other divisions for utilities services provided | 2,811,375 | 2,964,224 |

With respect to these transactions, accounts receivable from the City of Knoxville included in the balance sheet at year end were:

| | 2016 | 2015 |
|---|---|---|
| Accounts receivable | $ 325,488 | $ 295,804 |

## 14. Other Commitments and Contingencies

In the normal course of business, there are various lawsuits pending against KUB. Management has reviewed these lawsuits with counsel, who is vigorously defending KUB's position and is of the opinion that the ultimate disposition of these matters will not have a material adverse effect on KUB's financial position, results of operations or cash flows.

# Knoxville Utilities Board Water Division
## Required Supplementary Information – Schedule of Funding Progress
## June 30, 2016
## (Unaudited)

**Other Post-Employment Benefits (OPEB)**

| | Valuation Date | Actuarial Value of Assets (a) | Actuarial Accrued Liability (AAL) (b) | Unfunded Actuarial Accrued Liability (UAAL) (b-a) | Funded Ratio (a)/(b) | Covered Payroll (c) | UAAL as a Percentage of Covered Payroll [(b)-(a)]/(c) |
|---|---|---|---|---|---|---|---|
| | January 1, 2008 | $ - | $ 108,329,141 | $ 108,329,141 | 0% | $ 31,234,509 | 346.8% |
| | January 1, 2009 | 14,593,487 | 100,726,738 | 86,133,251 | 14% | 31,846,091 | 270.5% |
| | January 1, 2010 | 21,275,643 | 58,475,364 | 37,199,721 | 36% | 30,069,028 | 123.7% |
| | January 1, 2011 | 40,749,815 | 64,289,254 | 23,539,439 | 63% | 28,878,791 | 81.5% |
| | January 1, 2012 | 37,907,357 | 61,603,466 | 23,696,109 | 62% | 28,269,123 | 83.8% |
| | January 1, 2013 | 38,571,803 | 63,341,531 | 24,769,728 | 61% | 27,566,340 | 89.9% |
| | January 1, 2014 | 43,409,955 | 46,889,808 | 3,479,853 | 93% | 26,724,154 | 13.0% |
| * | January 1, 2015 | 47,705,478 | 47,745,640 | 40,162 | 100% | 25,816,884 | 0.2% |
| * | January 1, 2016 | 48,510,796 | 45,118,624 | (3,392,172) | 108% | 25,243,127 | (13.4%) |

* The actuarial valuations dated January 1, 2015 and 2016, which determine the annual required contribution for future fiscal years ending June 30, 2017 and 2018, have not been audited.

# Knoxville Utilities Board Water Division
## Required Supplementary Information – Schedule of Changes in Net Pension Liability and Related Ratios
## June 30, 2016
## (Unaudited)

| | Year ended December 31<br>2015 | 2014 |
|---|---|---|
| **Total pension liability** | | |
| Service cost | $ 4,157,062 | $ 4,092,808 |
| Interest | 14,812,784 | 14,698,657 |
| Differences between expected and actual experience | (1,890,334) | - |
| Benefit payments, including refunds of member contributions | (15,350,926) | (15,533,167) |
| **Net change in total pension liability** | 1,728,586 | 3,258,298 |
| **Total pension liability - beginning** | 202,773,764 | 199,515,466 |
| **Total pension liability - ending (a)** | $ 204,502,350 | $ 202,773,764 |
| **Plan fiduciary net position** | | |
| Contributions - employer | $ 5,991,887 | $ 5,908,541 |
| Contributions - participants | 487,546 | 475,854 |
| Net investment income | (95,430) | 22,292,369 |
| Other additions | 30,879 | 29,733 |
| Benefit payments, including refunds of member contributions | (15,274,926) | (15,405,167) |
| Administrative expense | (397,160) | (378,085) |
| Death benefits | (76,000) | (128,000) |
| **Net change in plan fiduciary net position**** | (9,333,204) | 12,795,245 |
| **Plan fiduciary net position - beginning**** | 208,795,394 | 196,000,149 |
| **Plan fiduciary net position - ending (b)**** | $ 199,462,190 | $ 208,795,394 |
| **Plan's net pension liability - ending (a) - (b)** | $ 5,040,160 | $ (6,021,630) |
| Plan fiduciary net position as a percentage of the total pension liability | 97.54% | 102.97% |
| Covered-employee payroll | $ 50,679,585 | $ 50,246,074 |
| Plan's net pension liability as a percentage of covered-employee payroll | 9.95% | (11.98%) |

**Notes to Schedule:**

* Information not reflected prior to 2014 due to changes in actuary methodologies required under GASB 67, which was implemented in 2014.

** Excludes amounts related to 401(k) matching contributions.

# Knoxville Utilities Board Water Division
## Required Supplementary Information – Schedule of Employer Pension Contributions
## June 30, 2016
## (Unaudited)

| | Year ended December 31 | |
|---|---|---|
| | 2015 | 2014 |
| Annual required contribution | $ 5,991,887 | $ 5,908,541 |
| Contribution in relation to the annual required contribution | 5,991,887 | 5,908,541 |
| Contribution deficiency | $ - | $ - |
| Covered-employee payroll | $ 50,679,585 | $ 50,246,074 |
| Contributions as a percentage of covered-employee payroll | 11.82% | 11.76% |

**Notes to Schedule:**

| | |
|---|---|
| Valuation Dates: | January 1, 2013 and January 1, 2014 |
| Timing: | Actuarially determined contributions for a plan year are based upon 50% of the amounts determined at the actuarial valuations for each of the two prior plan years. |

**Key methods and assumptions used to determine contribution rates:**

| | |
|---|---|
| Actuarial cost method: | Individual entry age |
| Asset valuation method: | 5-year smoothed market |
| Amortization method: | Level dollar closed period with 28 years remaining as of January 1, 2013 and 27 years remaining as of January 1, 2014. |
| Discount rate: | 8% at January 1, 2013 and 7.5% at January 1, 2014 |
| Salary increases: | From 2.58% to 7.92% for January 1, 2013 and from 2.8% to 5.15% for January 1, 2014, based on years of service |
| Mortality: | Sex distinct RP-2000 Combined Mortality projected to 2018 using Scale AA for the Janaury 1, 2013 valuation. Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA for the January 1, 2014 valuation. |
| Inflation: | 2.8 percent |

* Schedule of Employer Contribution information is not reflected prior to 2014 due to changes in actuary methodologies required under GASB 67, which was implemented 2014.

# Knoxville Utilities Board Water Division
## Supplemental Information - Schedule of Insurance in Force
## June 30, 2016
## (Unaudited) Schedule 1

**Insurance coverage is for KUB as a consolidated entity.**

### Crime
Covers losses resulting from employee dishonesty, robbery, burglary, and computer fraud. Limits of coverage - $5,000,000; $250,000 retention.

### Directors' and Officers' Liability Insurance
Covers KUB personnel appropriately authorized to make decisions on behalf of KUB (including but not limited to Commissioners, President and CEO, Senior Vice Presidents, Vice Presidents, and Directors) for wrongful acts. Limits of coverage - $20,000,000; $1,000,000 corporate deductible, $0 individual deductible.

### Employment Practices Liability
Coverage for costs related to actual or alleged employment practices violations for amounts exceeding specified amount ($500,000). Limits of coverage - $10,000,000.

### Fiduciary
Covers losses resulting from wrongful acts related to KUB's Pension, 401(k), and OPEB Trust funds. Limits of coverage - $10,000,000; $150,000 deductible.

### Pollution Legal Liability
New conditions coverage for losses exceeding specified amount per occurrence ($1,000,000). Limits of coverage - $20,000,000.

### Property Insurance
This coverage provides protection of KUB's property for fire, extended coverage, vandalism and malicious mischief, and coverage on boilers and machinery. Also included are flood and earthquake damage and mechanical failure. Limits of coverage - $250,000,000 per occurrence (subject to certain sublimits); $2,500,000 deductible per occurrence.

### Travel Accident
Covers losses related to employees' business travel. Limits of coverage - $1,500,000 aggregate.

### Excess Insurance for General Liability
As a government entity, KUB's liability is limited under the Tennessee Governmental Tort Liability Act (TCA §29-20-403). KUB is self-insured for up to the first $700,000 of any accident and has insurance of $1,000,000 above this retention.

### Excess Insurance for Workers' Compensation
Covers all losses exceeding specified amount per occurrence ($1,000,000). Limits of coverage - Statutory; stop loss coverage applies for aggregate losses over $5,000,000.

### Employee Health Plan Stop Loss Coverage
KUB's employee health plan is self-funded. KUB has purchased stop loss insurance, which covers KUB's exposure to annual expenses in excess of $400,000 per individual participant.

# Knoxville Utilities Board Water Division
## Supplemental Information - Schedule of Debt Maturities by Fiscal Year
## June 30, 2016
## (Unaudited)

**Schedule 2**

**Continued on Next Page**

| | S-2005 | | T-2007 | | U-2009 | | W-2011 | | X-2012 | | Y-2013 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **FY** | **Principal** | **Interest** | **Principal** | **Interest** | **Principal** | **Interest** | **Principal** | **Interest** | **Principal** | **Interest** | **Principal** | **Interest** |
| 16-17 | 465,000 | 267,521 | 750,000 | 41,250 | 875,000 | 931,625 | 550,000 | 871,750 | 515,000 | 345,750 | 280,000 | 282,200 |
| 17-18 | 485,000 | 244,271 | | | 925,000 | 896,625 | 550,000 | 844,250 | 535,000 | 320,000 | 300,000 | 273,800 |
| 18-19 | 500,000 | 224,871 | | | 950,000 | 859,625 | 550,000 | 827,750 | 565,000 | 293,250 | 320,000 | 261,800 |
| 19-20 | 520,000 | 204,871 | | | 1,000,000 | 821,625 | 550,000 | 805,750 | 590,000 | 265,000 | 340,000 | 249,000 |
| 20-21 | 545,000 | 183,421 | | | 1,050,000 | 781,625 | 550,000 | 789,250 | 625,000 | 235,500 | 350,000 | 235,400 |
| 21-22 | 570,000 | 160,940 | | | 1,125,000 | 739,625 | 550,000 | 772,750 | 655,000 | 204,250 | 375,000 | 221,400 |
| 22-23 | 590,000 | 137,428 | | | 1,175,000 | 694,625 | 500,000 | 756,250 | 670,000 | 184,600 | 400,000 | 210,150 |
| 23-24 | 615,000 | 112,353 | | | 1,225,000 | 647,625 | 500,000 | 741,250 | 690,000 | 164,500 | 415,000 | 198,150 |
| 24-25 | 640,000 | 86,215 | | | 1,300,000 | 598,625 | 500,000 | 726,250 | 710,000 | 143,800 | 435,000 | 185,700 |
| 25-26 | 665,000 | 58,695 | | | 1,350,000 | 546,625 | 500,000 | 710,625 | 735,000 | 120,725 | 450,000 | 172,650 |
| 26-27 | 700,000 | 30,100 | | | 1,425,000 | 492,625 | 500,000 | 693,125 | 765,000 | 95,000 | 470,000 | 159,150 |
| 27-28 | | | | | 1,500,000 | 435,625 | 500,000 | 673,125 | 790,000 | 64,400 | 1,250,000 | 145,050 |
| 28-29 | | | | | 1,575,000 | 375,625 | 500,000 | 655,625 | 820,000 | 32,800 | 1,300,000 | 107,550 |
| 29-30 | | | | | 1,650,000 | 308,688 | 500,000 | 635,625 | | | 2,285,000 | 68,550 |
| 30-31 | | | | | 1,750,000 | 238,563 | 500,000 | 617,500 | | | | |
| 31-32 | | | | | 1,825,000 | 164,188 | 500,000 | 598,750 | | | | |
| 32-33 | | | | | 1,925,000 | 86,625 | 500,000 | 580,000 | | | | |
| 33-34 | | | | | | | 2,000,000 | 560,000 | | | | |
| 34-35 | | | | | | | 2,000,000 | 480,000 | | | | |
| 35-36 | | | | | | | 2,000,000 | 400,000 | | | | |
| 36-37 | | | | | | | 2,000,000 | 320,000 | | | | |
| 37-38 | | | | | | | 2,000,000 | 240,000 | | | | |
| 38-39 | | | | | | | 2,000,000 | 160,000 | | | | |
| 39-40 | | | | | | | 2,000,000 | 80,000 | | | | |
| 40-41 | | | | | | | | | | | | |
| 41-42 | | | | | | | | | | | | |
| 42-43 | | | | | | | | | | | | |
| 43-44 | | | | | | | | | | | | |
| 44-45 | | | | | | | | | | | | |
| | $ 6,295,000 | $ 1,710,686 | $ 750,000 | $ 41,250 | $ 22,625,000 | $ 9,620,189 | $ 22,800,000 | $ 14,539,625 | $ 8,665,000 | $ 2,469,575 | $ 8,970,000 | $ 2,770,550 |

# Knoxville Utilities Board Water Division
## Supplemental Information - Schedule of Debt Maturities by Fiscal Year
## June 30, 2016
## (Unaudited)

**Schedule 2**

**Continued from Previous Page**

| | Z-2013 | | AA-2014 | | BB-2015 | | CC-2015 | | TOTAL | | Grand |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **FY** | **Principal** | **Interest** | **Principal** | **Interest** | **Principal** | **Interest** | **Principal** | **Interest** | **Principal** | **Interest** | **Total** |
| 16-17 | 500,000 | 1,004,625 | 150,000 | 261,750 | 100,000 | 791,700 | 375,000 | 703,906 | 4,560,000 | 5,502,077 | 10,062,077 |
| 17-18 | 500,000 | 989,625 | 150,000 | 257,250 | 865,000 | 786,700 | 400,000 | 696,406 | 4,710,000 | 5,308,927 | 10,018,927 |
| 18-19 | 525,000 | 979,625 | 150,000 | 252,750 | 885,000 | 743,450 | 425,000 | 684,406 | 4,870,000 | 5,127,527 | 9,997,527 |
| 19-20 | 550,000 | 963,875 | 175,000 | 246,750 | 950,000 | 699,200 | 425,000 | 667,406 | 5,100,000 | 4,923,477 | 10,023,477 |
| 20-21 | 575,000 | 947,375 | 175,000 | 243,250 | 960,000 | 680,200 | 450,000 | 650,406 | 5,280,000 | 4,746,427 | 10,026,427 |
| 21-22 | 600,000 | 930,125 | 175,000 | 238,000 | 1,000,000 | 661,000 | 475,000 | 632,406 | 5,525,000 | 4,560,496 | 10,085,496 |
| 22-23 | 625,000 | 912,125 | 200,000 | 231,000 | 1,050,000 | 611,000 | 475,000 | 613,406 | 5,685,000 | 4,350,584 | 10,035,584 |
| 23-24 | 625,000 | 893,375 | 200,000 | 223,000 | 1,110,000 | 558,500 | 500,000 | 599,156 | 5,880,000 | 4,137,909 | 10,017,909 |
| 24-25 | 650,000 | 874,625 | 200,000 | 215,000 | 1,170,000 | 503,000 | 525,000 | 587,906 | 6,130,000 | 3,921,121 | 10,051,121 |
| 25-26 | 675,000 | 852,688 | 225,000 | 209,000 | 1,210,000 | 467,900 | 550,000 | 574,782 | 6,360,000 | 3,713,690 | 10,073,690 |
| 26-27 | 700,000 | 828,219 | 225,000 | 202,250 | 1,245,000 | 428,575 | 550,000 | 560,344 | 6,580,000 | 3,489,388 | 10,069,388 |
| 27-28 | 750,000 | 800,219 | 225,000 | 195,500 | 1,260,000 | 385,000 | 575,000 | 543,844 | 6,850,000 | 3,242,763 | 10,092,763 |
| 28-29 | 775,000 | 770,219 | 250,000 | 188,750 | 1,275,000 | 340,900 | 600,000 | 526,594 | 7,095,000 | 2,998,063 | 10,093,063 |
| 29-30 | 800,000 | 738,250 | 250,000 | 181,250 | 1,315,000 | 296,275 | 625,000 | 508,594 | 7,425,000 | 2,737,232 | 10,162,232 |
| 30-31 | 825,000 | 704,250 | 275,000 | 173,438 | 2,740,000 | 256,825 | 650,000 | 489,060 | 6,740,000 | 2,479,636 | 9,219,636 |
| 31-32 | 850,000 | 669,188 | 275,000 | 164,844 | 2,800,000 | 174,625 | 675,000 | 467,938 | 6,925,000 | 2,239,533 | 9,164,533 |
| 32-33 | 900,000 | 632,000 | 300,000 | 155,906 | 2,900,000 | 90,625 | 700,000 | 446,000 | 7,225,000 | 1,991,156 | 9,216,156 |
| 33-34 | 925,000 | 591,500 | 300,000 | 146,156 | | | 725,000 | 418,000 | 3,950,000 | 1,715,656 | 5,665,656 |
| 34-35 | 950,000 | 549,875 | 325,000 | 136,032 | | | 750,000 | 389,000 | 4,025,000 | 1,554,907 | 5,579,907 |
| 35-36 | 1,000,000 | 507,125 | 325,000 | 124,656 | | | 775,000 | 359,000 | 4,100,000 | 1,390,781 | 5,490,781 |
| 36-37 | 1,025,000 | 460,875 | 350,000 | 113,282 | | | 800,000 | 330,906 | 4,175,000 | 1,225,063 | 5,400,063 |
| 37-38 | 1,075,000 | 413,469 | 350,000 | 101,031 | | | 825,000 | 301,906 | 4,250,000 | 1,056,406 | 5,306,406 |
| 38-39 | 1,100,000 | 363,750 | 375,000 | 88,781 | | | 875,000 | 272,000 | 4,350,000 | 884,531 | 5,234,531 |
| 39-40 | 1,150,000 | 308,750 | 375,000 | 75,656 | | | 900,000 | 237,000 | 4,425,000 | 701,406 | 5,126,406 |
| 40-41 | 1,200,000 | 251,250 | 400,000 | 62,531 | | | 925,000 | 201,000 | 2,525,000 | 514,781 | 3,039,781 |
| 41-42 | 1,225,000 | 191,250 | 425,000 | 48,031 | | | 975,000 | 164,000 | 2,625,000 | 403,281 | 3,028,281 |
| 42-43 | 1,275,000 | 130,000 | 450,000 | 32,625 | | | 1,000,000 | 125,000 | 2,725,000 | 287,625 | 3,012,625 |
| 43-44 | 1,325,000 | 66,250 | 450,000 | 16,313 | | | 1,050,000 | 85,000 | 2,825,000 | 167,563 | 2,992,563 |
| 44-45 | | | | | | | 1,075,000 | 43,000 | 1,075,000 | 43,000 | 1,118,000 |
| | $ 23,675,000 | $ 18,324,502 | $ 7,725,000 | $ 4,584,782 | $ 22,835,000 | $ 8,475,475 | $ 19,650,000 | $ 12,878,372 | $ 143,990,000 | $ 75,415,006 | $ 219,405,006 |

# Knoxville Utilities Board Water Division

## Supplemental Information - Schedule of Current Rates in Force

## June 30, 2016

## (Unaudited)

## Schedule 3

| Rate Class | Base Charge | Number of Customers |
|---|---|---|
| Residential<br>Inside City rate | For water furnished to premises entirely within the corporate limits of the City of Knoxville: | 55,363 |

**Commodity Charge**

| | | |
|---|---|---|
| First | 2 | 100 Cubic Feet Per Month at $0.25 Per 100 Cubic Feet |
| Over | 2 | 100 Cubic Feet Per Month at $2.65 Per 100 Cubic Feet |

**Additional Monthly Customer Charge**

| | | |
|---|---|---|
| For | 5/8" meter | $ 14.00 |
| For | 1" meter | 28.10 |
| For | 1 1/2" meter | 40.00 |
| For | 2" meter | 56.00 |

| Rate Class | Base Charge | Number of Customers |
|---|---|---|
| Residential<br>Outside City rate | For water furnished to premises upon which any water faucet or other outlet is outside the corporate limits of the City of Knoxville: | 13,194 |

**Commodity Charge**

| | | |
|---|---|---|
| First | 2 | 100 Cubic Feet Per Month at $0.30 Per 100 Cubic Feet |
| Over | 2 | 100 Cubic Feet Per Month at $3.20 Per 100 Cubic Feet |

**Additional Monthly Customer Charge**

| | | |
|---|---|---|
| For | 5/8" meter | $ 15.40 |
| For | 1" meter | 32.40 |
| For | 1 1/2" meter | 46.40 |
| For | 2" meter | 65.40 |

# Knoxville Utilities Board Water Division
## Supplemental Information - Schedule of Current Rates in Force
## June 30, 2016
## (Unaudited)

## Schedule 3

| Rate Class | Base Charge | Number of Customers |
|---|---|---|
| Non-Residential Inside City rate/ Industrial Park rate | For water furnished to premises entirely within the corporate limits of the City of Knoxville or within the boundaries of an area recognized as an industrial park by the Tennessee Department of Economic and Community Development: | 9,712 |

**Commodity Charge**

| | | |
|---|---|---|
| First | 2 | 100 Cubic Feet Per Month at $1.55 Per 100 Cubic Feet |
| Next | 8 | 100 Cubic Feet Per Month at $3.45 Per 100 Cubic Feet |
| Next | 90 | 100 Cubic Feet Per Month at $4.25 Per 100 Cubic Feet |
| Next | 300 | 100 Cubic Feet Per Month at $3.05 Per 100 Cubic Feet |
| Next | 4,600 | 100 Cubic Feet Per Month at $2.00 Per 100 Cubic Feet |
| Next | 5,000 | 100 Cubic Feet Per Month at $1.00 Per 100 Cubic Feet |

**Additional Monthly Customer Charge**

| | | |
|---|---|---|
| For | 5/8" meter | $ 14.00 |
| For | 1" meter | 28.10 |
| For | 1 1/2" meter | 40.00 |
| For | 2" meter | 56.00 |
| For | 3" meter | 127.00 |
| For | 4" meter | 210.00 |
| For | 6" meter | 460.00 |
| For | 8" meter | 809.00 |
| For | 10" meter | 1,232.00 |
| For | 12" meter | 1,823.00 |

| | | |
|---|---|---|
| Non-Residential Outside City rate | For water furnished to premises upon which any water faucet or other outlet is outside the corporate limits of the City of Knoxville, excluding premises within the boundaries of an area recognized as an industrial park by the Tennessee Department of Economic and Community Development: | 711 |

**Commodity Charge**

| | | |
|---|---|---|
| First | 2 | 100 Cubic Feet Per Month at $1.85 Per 100 Cubic Feet |
| Next | 8 | 100 Cubic Feet Per Month at $4.00 Per 100 Cubic Feet |
| Next | 90 | 100 Cubic Feet Per Month at $5.10 Per 100 Cubic Feet |
| Next | 300 | 100 Cubic Feet Per Month at $3.60 Per 100 Cubic Feet |
| Next | 4,600 | 100 Cubic Feet Per Month at $2.40 Per 100 Cubic Feet |
| Next | 5,000 | 100 Cubic Feet Per Month at $1.20 Per 100 Cubic Feet |

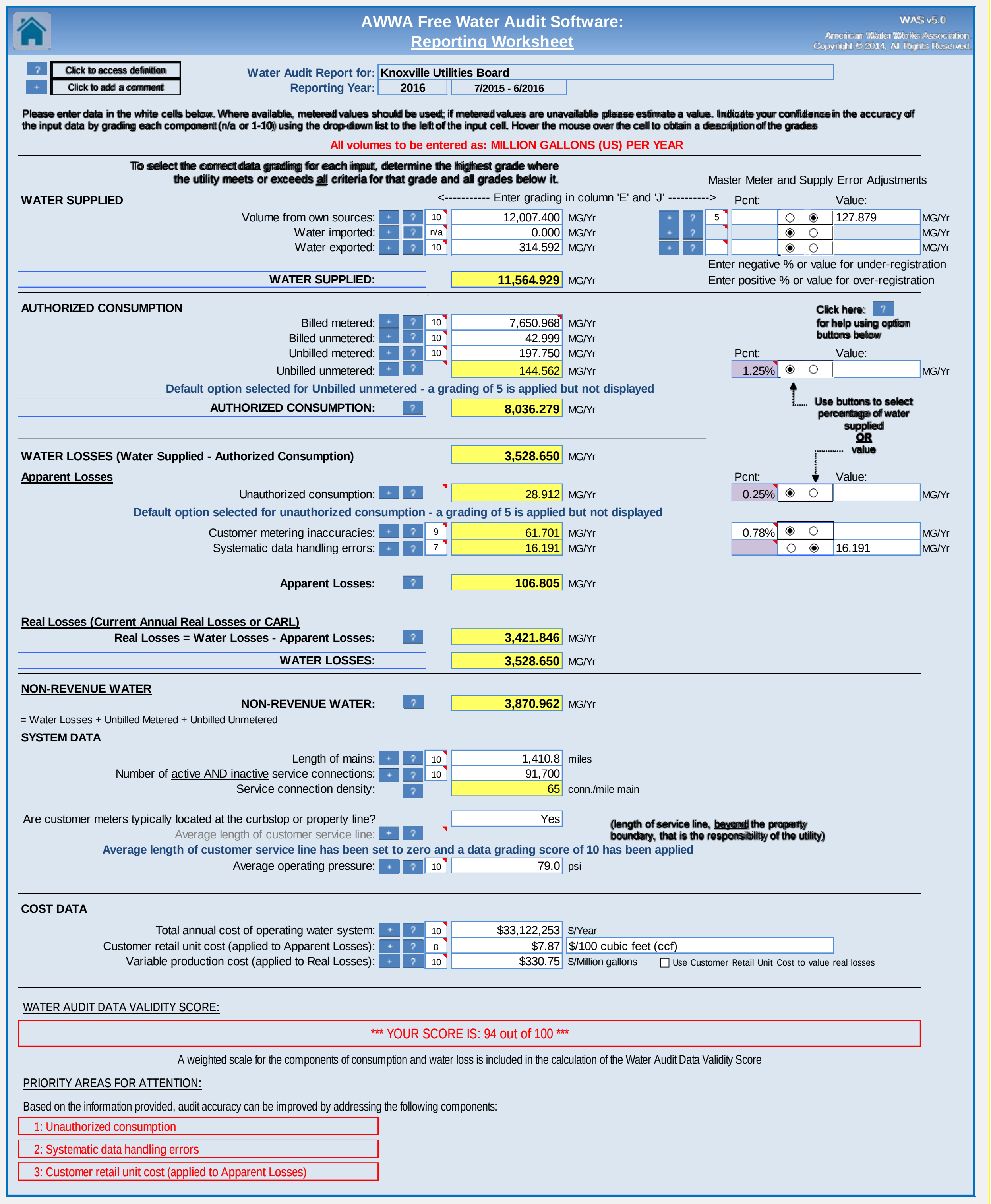
**Additional Monthly Customer Charge**

| | | |
|---|---|---|
| For | 5/8" meter | $ 15.40 |
| For | 1" meter | 32.40 |
| For | 1 1/2" meter | 46.40 |
| For | 2" meter | 65.40 |
| For | 3" meter | 151.00 |
| For | 4" meter | 253.00 |
| For | 6" meter | 552.00 |
| For | 8" meter | 970.00 |
| For | 10" meter | 1,477.00 |
| For | 12" meter | 2,189.00 |

# Knoxville Utilities Board Water Division
## Supplemental Information - Schedule of Unaccounted for Water
## June 30, 2016
## (Unaudited) Schedule 4

The following unaudited Schedule of Unaccounted for Water is attached as required by the Tennessee Code Annotated. For reports submitted January 1, 2013 and later, the American Water Works Association (AWWA) water loss reporting model must be used. For fiscal year 2015, water utilities are required to have a Validity Score greater than 70 and maintain non-revenue water as a percent by cost of operating system of less than 25%. For fiscal year 2016, water utilities are required to have a Validity Score greater than 70 and maintain non-revenue water as a percent by cost of operating system of less than 25%. For fiscal year 2015, KUB reported a Validity Score of 94 and non-revenue water as a percent by cost of operating system of 10.2%. For fiscal year 2016, KUB reported a Validity Score of 94 and non-revenue water as a percent by cost of operating system of 7.2%. See Supplemental Information Schedule 4 for the AWWA Reporting Worksheet.

# Knoxville Utilities Board Water Division
## Supplemental Information - Schedule of Unaccounted for Water
## June 30, 2016
## (Unaudited) Schedule 4



**AWWA Free Water Audit Software:**
**Reporting Worksheet**

WAS v5.0
American Water Works Association.
Copyright © 2014, All Rights Reserved.

? Click to access definition
\+ Click to add a comment

Water Audit Report for: Knoxville Utilities Board
Reporting Year: 2016 7/2015 - 6/2016

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

<----------- Enter grading in column 'E' and 'J' ---------->

**WATER SUPPLIED**

| | Grade | Value | Unit | Grade | Pcnt: | | Value: | Unit |
|---|---|---|---|---|---|---|---|---|
| Volume from own sources: | 10 | 12,007.400 | MG/Yr | 5 | | ○ ● | 127.879 | MG/Yr |
| Water imported: | n/a | 0.000 | MG/Yr | | | ● ○ | | MG/Yr |
| Water exported: | 10 | 314.592 | MG/Yr | | | ● ○ | | MG/Yr |

Enter negative % or value for under-registration
Enter positive % or value for over-registration

**WATER SUPPLIED:** 11,564.929 MG/Yr

**AUTHORIZED CONSUMPTION**

Click here: ? for help using option buttons below

| | Grade | Value | Unit | Pcnt: | | Value: | Unit |
|---|---|---|---|---|---|---|---|
| Billed metered: | 10 | 7,650.968 | MG/Yr | | | | |
| Billed unmetered: | 10 | 42.999 | MG/Yr | | | | |
| Unbilled metered: | 10 | 197.750 | MG/Yr | | | | |
| Unbilled unmetered: | | 144.562 | MG/Yr | 1.25% | ● ○ | | MG/Yr |

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

**AUTHORIZED CONSUMPTION:** 8,036,279 MG/Yr

Use buttons to select percentage of water supplied **OR** value

**WATER LOSSES (Water Supplied - Authorized Consumption)** 3,528.650 MG/Yr

**Apparent Losses**

| | Grade | Value | Unit | Pcnt: | | Value: | Unit |
|---|---|---|---|---|---|---|---|
| Unauthorized consumption: | | 28.912 | MG/Yr | 0.25% | ● ○ | | MG/Yr |

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

| | Grade | Value | Unit | Pcnt: | | Value: | Unit |
|---|---|---|---|---|---|---|---|
| Customer metering inaccuracies: | 9 | 61.701 | MG/Yr | 0.78% | ● ○ | | MG/Yr |
| Systematic data handling errors: | 7 | 16.191 | MG/Yr | | ○ ● | 16.191 | MG/Yr |

**Apparent Losses:** 106.805 MG/Yr

**Real Losses (Current Annual Real Losses or CARL)**
**Real Losses = Water Losses - Apparent Losses:** 3,421.846 MG/Yr

**WATER LOSSES:** 3,528.650 MG/Yr

**NON-REVENUE WATER**
**NON-REVENUE WATER:** 3,870.962 MG/Yr
= Water Losses + Unbilled Metered + Unbilled Unmetered

**SYSTEM DATA**

| | Grade | Value | Unit |
|---|---|---|---|
| Length of mains: | 10 | 1,410.8 | miles |
| Number of active AND inactive service connections: | 10 | 91,700 | |
| Service connection density: | | 65 | conn./mile main |

Are customer meters typically located at the curbstop or property line? Yes
Average length of customer service line:
(length of service line, beyond the property boundary, that is the responsibility of the utility)
Average length of customer service line has been set to zero and a data grading score of 10 has been applied
Average operating pressure: 10 79.0 psi

**COST DATA**

| | Grade | Value | Unit |
|---|---|---|---|
| Total annual cost of operating water system: | 10 | $33,122,253 | $/Year |
| Customer retail unit cost (applied to Apparent Losses): | 8 | $7.87 | $/100 cubic feet (ccf) |
| Variable production cost (applied to Real Losses): | 10 | $330.75 | $/Million gallons |

☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 94 out of 100 ***

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

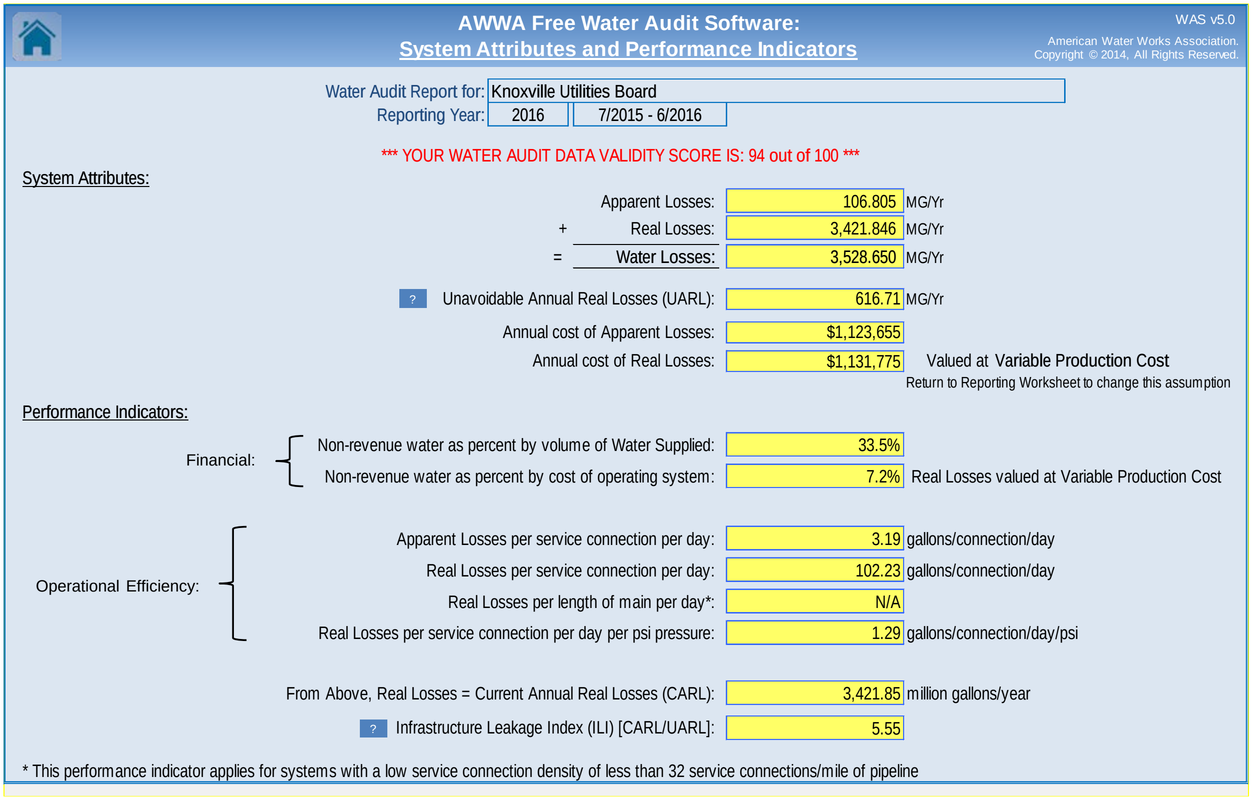
PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Unauthorized consumption
2: Systematic data handling errors
3: Customer retail unit cost (applied to Apparent Losses)

# Knoxville Utilities Board Water Division
## Supplemental Information - Schedule of Unaccounted for Water
## June 30, 2016
## (Unaudited)

**Schedule 4**



**AWWA Free Water Audit Software:**
**System Attributes and Performance Indicators**

Water Audit Report for: Knoxville Utilities Board
Reporting Year: 2016 7/2015 - 6/2016

*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 94 out of 100 ***

System Attributes:

| | | |
|---|---|---|
| Apparent Losses: | 106.805 | MG/Yr |
| + Real Losses: | 3,421.846 | MG/Yr |
| = Water Losses: | 3,528.650 | MG/Yr |
| ? Unavoidable Annual Real Losses (UARL): | 616.71 | MG/Yr |
| Annual cost of Apparent Losses: | $1,123,655 | |
| Annual cost of Real Losses: | $1,131,775 | Valued at Variable Production Cost |

Return to Reporting Worksheet to change this assumption

Performance Indicators:

| | | | |
|---|---|---|---|
| Financial: | Non-revenue water as percent by volume of Water Supplied: | 33.5% | |
| | Non-revenue water as percent by cost of operating system: | 7.2% | Real Losses valued at Variable Production Cost |
| Operational Efficiency: | Apparent Losses per service connection per day: | 3.19 | gallons/connection/day |
| | Real Losses per service connection per day: | 102.23 | gallons/connection/day |
| | Real Losses per length of main per day*: | N/A | |
| | Real Losses per service connection per day per psi pressure: | 1.29 | gallons/connection/day/psi |
| | From Above, Real Losses = Current Annual Real Losses (CARL): | 3,421.85 | million gallons/year |
| | ? Infrastructure Leakage Index (ILI) [CARL/UARL]: | 5.55 | |

* This performance indicator applies for systems with a low service connection density of less than 32 service connections/mile of pipeline

9717 Cogdill Road
Suite 201
Knoxville, TN 37932

C&J COULTER & JUSTUS, P.C.

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# Report of Independent Auditors on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with *Government Auditing Standards*

Board of Commissioners
Water Division of the Knoxville Utilities Board
Knoxville, Tennessee

## Report on the Financial Statements

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the Water Division (the Division) of the Knoxville Utilities Board, a component unit of the City of Knoxville, Tennessee, as of and for the year ended June 30, 2016, and the related notes to the financial statements, which collectively comprise the Division's basic financial statements, and have issued our report thereon dated October 27, 2016.

## Internal Control over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Division's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Division's internal control. Accordingly, we do not express an opinion on the effectiveness of the Division's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the Division's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Board of Commissioners
Water Division of the Knoxville Utilities Board
Knoxville, Tennessee

**Compliance and Other Matters**

As part of obtaining reasonable assurance about whether the Division's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

**Purpose of Report**

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Division's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Division's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Coulter & Justus, P.C.

Knoxville, Tennessee
October 27, 2016

**APPENDIX E-1**

# THE WASTEWATER DIVISION

# THE WASTEWATER DIVISION

## INTRODUCTION

The Wastewater Division was established June 16, 1953 as a separate department of the City of Knoxville. On November 4, 1986, voters in the City elected to transfer operation of the City's Wastewater Division to KUB, effective July 1, 1987. While the Wastewater Division is a self-sustained financial entity, the operations of both the water distribution and wastewater collection and treatment systems have been merged to achieve operating efficiencies.

The wastewater system provides collection and treatment throughout the City and portions of East Knox County.

## WASTEWATER SYSTEM

When established, the wastewater system had two treatment plants. The two treatment plants and the lines were adequate to serve the needs of the original City. However, the annexation of additional land and the needs of the population created a demand beyond the capacity of the system.

The system embarked upon a significant expansion program throughout the 1960s and 1970s. This included the acquisition of the sewage facilities of the Fountain City Sanitary District. In 1982, the City completed construction of its 40 MGD treatment facility at the mouth of Third Creek. In 1985 the capacity of the Fourth Creek Treatment Plant was expanded.

In July 1987, as a result of an earlier public referendum, the operation of the wastewater system was transferred from the City to KUB. In June of 1988, the East Knox Utility District was acquired by KUB. KUB acquired the Northeast Knoxville Utility District wastewater facilities in 2002. The present KUB wastewater system consists of four (4) treatment plants, 75 pumping stations, and approximately 1,317 miles of service mains. The Third Creek Plant, now known as Kuwahee, is located at the mouth of Third Creek and serves the First Creek, Second Creek, Holston River, Baker Creek, and Goose Creek drainage areas and that portion of the Third Creek area within the original City boundaries. Secondly, the Loves Creek Treatment Plant is located at the mouth of Loves Creek and serves this entire drainage area. The Fourth Creek Treatment Plant is located at the mouth of Fourth Creek and serves the Fourth Creek drainage area, the Ten Mile Creek drainage area, and that portion of the Third Creek area outside the original city limits. The Eastbridge Treatment Plant, located on the Holston River, serves the Lyons Creek Drainage Basin and the Eastbridge Industrial Park.

In addition to the service areas outlined above, service is provided to other drainage basins through an agreement with West Knox Utility District. At the present time, the quantities of flow received from this utility district are small in comparison to total system flows.

Total flows through the wastewater system for the twelve months ended June 30, 2016 were 13.9 billion gallons. Average daily flow through the system was 38.14 MGD. The wastewater system presently provides service to approximately 70,265 customers and customer growth is essentially flat.

## FEDERAL CONSENT DECREE

In February 2005, a Consent Decree was entered into federal court regarding the operation of KUB's wastewater system. Under the terms of the Consent Decree, the remediation of identified sanitary sewer overflows (SSOs) on KUB's wastewater system had to be completed by June 30, 2016. KUB completed all the requirements of the Consent Decree for the collection system two years in advance of the deadline.

The Consent Decree also required KUB to perform an evaluation of the wet weather performance and capacity of its wastewater treatment plants. In July 2007, KUB submitted a Composite Correction Plan (CCP) for its wastewater treatment plants to EPA for review. The development and filing of the CCP was a requirement of the federal order of February 2005. The CCP includes recommended improvements to KUB's Kuwahee and Fourth Creek treatment plants to address wet weather capacity issues noted in prior assessments. The EPA approved the CCP in January 2009 including a recommended schedule of plant improvements that extends beyond the expiration date of the original Consent Decree. An amendment to the Consent Decree incorporating and establishing this schedule was agreed to by all parties and was entered on June 23, 2009. The purpose of the Amendment is to allow KUB to complete a portion of work outlined in the CCP after the Consent Decree deadline of June 30, 2016. The CCP provides for a biologically enhanced high-rate clarification (the BEHRC) secondary treatment system to be installed at the Fourth Creek treatment plant by June 30, 2018 and at the Kuwahee treatment plant by June 30, 2021. The total cost of such improvements is estimated to be approximately $120 million.

KUB's funding plan for the Consent Decree includes long-term bonds and a series of rate increases phased in over the term of the order. Bond proceeds fund all types of wastewater capital projects, the majority of which are related to the Consent Decree. As of June 30, 2016, the Wastewater Division had issued $485 million in bonds to fund system capital improvements since the inception of the Consent Decree. The Board approved two 50 percent rate increases, which went into effect in April 2005 and January 2007. The Board also approved an 8 percent rate increase, which was effective in September 2008, two 12 percent rate increases, which were effective in April 2011 and October 2012, and three 6 percent rate increases effective October 2014, October 2015 and October 2016. KUB anticipates additional bond issues and rate increases over the next decade to help fund wastewater capital improvements.

KUB successfully completed the first cycle of Maintenance Operation Management (MOM) requirements one year before the deadline by inspecting 99.5% of manholes and gravity mains, smoke testing 99.9% of gravity mains, performing required inspections of pump stations and the related force mains, and completing all Corrective Action Plan/Engineering Report (CAP/ER) projects. KUB initiated the second MOM cycle that continues to focus on the prevention of SSOs. As part of the Century II initiative, formally known as the PACE10 program, KUB has installed storage tanks providing 34 million gallons of wastewater storage to control wet weather overflows and rehabilitated or replaced approximately 334.9 miles of collection system pipe. KUB also continues to maintain a proactive operations and maintenance plan for the wastewater collection system including inspection, grease control, and private lateral enforcement. The result of the Pace10/Century II initiative has been an 82 percent reduction in SSOs.

As of June 30, 2016, the Wastewater Division had completed its twelfth full year under the Consent Decree, spending $529.5 million on capital investments to meet Consent Decree requirements. During fiscal year 2016, the Wastewater Division incurred $37.3 million in total expenditures related to Consent Decree requirements, including $3.3 million for operating costs and $34 million in capital improvements which included the rehabilitation or replacement of 28 miles of wastewater main. During the fiscal year, $26.5 million was spent on sewer mini-basin rehabilitation and replacement. Trunk line rehabilitation and replacement accounted for $2 million of capital expenditures, while pump station improvements accounted for $4.6 million.

## PENSION PLAN

### Description of Plan

The Knoxville Utilities Board Pension Plan (the Plan) is a governmental plan as defined by the Employee Retirement Income Security Act of 1974 ("ERISA" or the "Act"), is not subject to any of the provisions of the Act, and was revised January 1, 2014 to include all prior approved amendments. The Plan is a single-employer contributory, defined benefit pension plan established by Knoxville Utilities Board ("KUB") Resolution No. 980 dated February 18, 1999, effective July 1, 1999, as authorized by the Charter of the City of Knoxville §1107(J). The Plan is designed to provide retirement, disability and death benefits to KUB employees. KUB administers the Plan through an Administrative Committee consisting of seven KUB employees that are appointed by KUB's President and CEO. Any amendments to the Plan involving costs not approved in the operating budget must be adopted by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Plan may be approved by KUB's President and CEO upon 60 days notification to the KUB Audit and Finance Committee. The Plan issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017. For purposes of this disclosure, presentation is on a consolidated basis unless division's share is specified.

Effective January 1, 2011, KUB closed the Plan such that persons employed or re-employed by KUB on or after January 1, 2011, are not eligible to participate, but that eligible employees hired prior to January 1, 2011, who have not separated from service, shall continue as Participants and to accrue benefits under the Plan.

Participants in the Plan consisted of the following as of December 31:

| | 2015 | 2014 |
|---|---|---|
| Inactive plan members: | | |
| Terminated vested participants | 39 | 40 |
| Retirees and beneficiaries | 628 | 627 |
| Active plan members | 692 | 725 |
| Total | 1,359 | 1,392 |

### Retirement Benefits

The Plan provides three benefit arrangements for KUB participants, retirees, and beneficiaries.

The Plan provides pension benefits through the Career Equity Program ("CEP") for eligible employees hired on or after January 1, 1999, and for eligible former "City System Plan A" participants who elected CEP coverage as of July 1, 1999. The guaranteed pension benefit payable to a participant who has completed five or more years of service (or reached the normal retirement date, if earlier) upon termination of KUB employment shall be a lump sum equal to the participant's average compensation times their benefit percentage, as defined in the Plan document, or an annuity may be chosen by the participant.

In addition, the Plan provided retirement benefits through "Plan A" for former City System Plan A participants who elected not to participate in the CEP. Plan A is a closed plan and is not available to KUB employees hired after July 1, 1999. Plan A provides for early retirement benefits with 25 years of service and normal retirement benefits at age 62 or later. Benefits provided to Plan A participants include several different forms of monthly annuity payments.

The Plan also provides retirement benefits through "Plan B" for former "City System Plan B" participants. Plan B is a closed plan providing benefits to participants not covered by Social Security. Benefits provided to Plan B participants include several different forms of monthly annuity payments available to participants.

Effective January 1, 2012, KUB began to provide for additional monthly supplements, which will not be subject to cost of living adjustments, to certain former employees and surviving dependents of former employees who are eligible for and have elected coverage under the KUB retiree medical plan and are eligible for Medicare. This was done to address the loss of drug coverage under the KUB retiree medical plan and to assist such individuals in obtaining prescription drug coverage under Medicare Part D.

### Contributions

Participation in Plan A requires employee contributions of 3 percent of the first $4,800 of annual earnings and 5 percent of annual earnings in excess of $4,800. Plan B participants may not make contributions to the Plan. KUB contributions are determined by the enrolled actuary of the Plan and equal the amount necessary to provide the benefits under the Plan determined by the application of accepted actuarial methods and assumptions. The method of funding shall be consistent with Plan objectives.

### Plan Funding

KUB maintains a Funding Policy for the Plan in accordance with Tennessee State Law. The primary goal of the Policy is to document the method KUB has adopted to provide assurance that future KUB and employee contributions and current Plan assets will be sufficient to fund all benefits expected to be paid to current active, inactive and retired Plan participants and their beneficiaries. Per the Funding Policy, KUB fully funds its annual Actuarially Determined Contribution.

### Investments

The Plan's investments are held by State Street Bank and Trust Company (the "Trustee"). The Plan's policy in regard to the allocation of invested assets is established by the Investment Committee and approved by the KUB Board of Commissioners and may only be amended by the KUB Board of Commissioners. It is the policy of the Investment Committee to pursue an investment strategy that reduces risk through the prudent diversification of the portfolio across a broad selection of distinct asset classes. The following was the Plan's adopted asset allocation policy as of December 31, 2015:

| Asset Class | Target Allocation |
|---|---|
| Domestic equity – large cap | 20% - 50% |
| Domestic equity – mid cap | 0% - 15% |
| Domestic equity – small cap | 0% - 15% |
| Domestic equity - convertible securities | 0% - 10% |
| Non-U.S. equity | 0% - 20% |
| Real estate equity | 0% - 10% |
| Fixed income – aggregate bonds | 5% - 25% |
| Fixed income – long-term bonds | 10% - 25% |
| Cash and deposits | 0% - 5% |

Contributions of $5,669,380 and $6,314,399 for 2014 and 2013, respectively, were made during KUB's fiscal years ending June 30, 2016 and 2015, respectively. Of these amounts, $1,247,264 and $1,326,024 are attributable to the Wastewater Division. The contribution was determined as part of the January 1, 2014 valuation using the Individual Entry Age Normal funding method. The objective under this method is to fund each participant's benefits under the Plan as payments which are level as a percentage of salary, starting on the original participation date (employment date) and continuing until the assumed retirement, termination, disability or death. The actuarial valuation for the Plan year ending December 31, 2015 resulted in an actuarially determined contribution of $4,816,913 for the fiscal year ending June 30, 2017, based on the Plan's current funding policy. The Wastewater Division's portion of this contribution is $1,059,721.

Subsequent to June 30, 2016, the actuarial valuation for the Plan year ending December 31, 2016 was completed. The actuarial valuation resulted in an actuarially determined contribution of $3,756,283 for the fiscal year ending June 30, 2018, based on the Plan's current funding policy. The Wastewater Division's portion of this contribution is $826,382. For the Plan year ending December 31, 2016, the Plan's actuarial funded ratio was 103.04 percent.

The actuarial valuations for the Plan years ending December 31, 2015 and 2016, which determine the actuarially determined contribution for future fiscal years ending June 30, 2017 and 2018, have not been audited.

**Implementation of GASB 68**

In fiscal year 2015, KUB adopted GASB Statement No. 68, Accounting and Financial Reporting for Pensions – an amendment of GASB Statement No. 27 ("GASB 68"), which requires measurement of the net pension liability as total pension liability less the amount of the Plan's fiduciary net position. The amounts reported as of June 30 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2016 and 2015 will be based on the December 31, 2015 and 2014 measurement date, respectively. The division's share of the net pension liability at June 30, 2016 is $1,108,835 and the net pension asset at June 30, 2015 is $1,264,542.

GASB 68 requires certain disclosures related to the net pension liability of the Plan as disclosed below:

| | | 2015 | | 2014 |
|---|---|---|---|---|
| Total pension liability | $ | 204,502,350 | $ | 202,773,764 |
| Plan fiduciary net position | | 199,462,190 | | (208,795,394) |
| Plan's net pension liability (asset) | $ | 5,040,160 | $ | (6,021,630) |
| | | | | |
| Plan fiduciary net position as a percentage of the total pension liability | | 97.54% | | 102.97% |

Changes in Net Pension Liability are as follows:

| | Total Pension Liability (a) | Increase (Decrease) Plan Fiduciary Net Position (b) | Net Pension Liability (a) - (b) |
|---|---|---|---|
| Balances at December 31, 2014 | $ 202,773,764 | $ 208,795,394 | $ (6,021,630) |
| Changes for the year: | | | |
| Service cost | 4,157,062 | - | 4,157,062 |
| Interest | 14,812,784 | - | 14,812,784 |
| Differences between Expected and Actual Experience | (1,890,334) | - | (1,890,334) |
| Changes of Assumptions | - | - | - |
| Contributions - employer | - | 5,991,887 | (5,991,887) |
| Contributions - rollovers | - | 482,060 | (482,060) |
| Contributions - member | - | 5,486 | (5,486) |
| Net investment income | - | (64,551) | 64,551 |
| Benefit payments | (15,350,926) | (15,350,926) | - |
| Administrative expense | - | (397,160) | 397,160 |
| Net changes | 1,728,586 | (9,333,204) | 11,061,790 |
| Balances at December 31, 2015 | $ 204,502,350 | $ 199,462,190 | $ 5,040,160 |

*Actuarial Assumptions.* The total pension liability was determined by an actuarial valuation as of December 31, 2015 and 2014, using the following actuarial assumptions, applied to all periods included in the measurement:

| | |
|---|---|
| Actuarial cost method: | Individual entry age |
| Asset valuation method: | 5-year smoothed market |
| Amortization method: | Level dollar closed period with 28 years remaining as of January 1, 2013 and 27 years remaining as of January 1, 2014 |
| Discount rate: | 8% at January 1, 2013 and 7.5% at January 1, 2014 |
| Salary increases: | From 2.58% to 7.92% for January 1, 2013 and from 2.80% to 5.15% for January 1, 2014, based on years of service |
| Mortality: | Sex distinct RP-2000 Combined Mortality projected to 2018 using Scale AA for the January 1, 2013 valuation. Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA for the January 1, 2014 valuation |
| Inflation | 2.8 percent |

The actuarial assumptions used in the December 31, 2015 valuation were based on the results of an actuarial experience study for the period January 1, 2009 through December 31, 2013.

The long-term expected rate of return on Plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the Plan's target asset allocation as of December 31, 2015 and 2014 are summarized in the following table. The real rate of return reported for fixed income is for aggregate fixed income. The Plan has both aggregate and long duration fixed income.

| | **Long Term Expected Real Rate of Return** | |
|---|---|---|
| **Asset Class** | **2015** | **2014** |
| Domestic equity | 7.2% | 6.0% |
| Non-U.S. equity | 7.4% | 7.0% |
| Real estate equity | 6.5% | 5.7% |
| Fixed income | 3.7% | 1.8% |
| Cash and deposits | 2.6% | 0.5% |

*Discount rate.* The discount rate used to measure the total pension liability was 7.5 percent as of January 1, 2015 and 2014. The projection of cash flows used to determine the discount rate assumed that participant contributions will be made at the current contribution rate and that KUB contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

*Sensitivity of the net pension liability to changes in the discount rate.* The following presents the net pension liability of the Plan as of December 31, 2015, calculated using the discount rate of 7.5 percent, as well as what the Plan's net pension liability would be if it were calculated using a discount rate that is one percent lower (6.5 percent) or one percent higher (8.5 percent) than the current rate:

| | **1% Decrease (6.5%)** | **Current Discount Rate (7.5%)** | **1% Increase (8.5%)** |
|---|---|---|---|
| Plan's net pension liability | $ 17,128,897 | $ 5,040,160 | $ (5,963,331) |

**Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions**

For the year ended June 30, 2015, KUB recognized pension expense of $2,749,905 (Division's share $577,480).

The impact of experience gains or losses and assumption changes on the Total Pension Liability are recognized in expense over the average expected remaining service life of all active and inactive members. As of the measurement date, this recognition period was 3.72 years. However, there were no experience gains or losses, and there were no assumption changes during the measurement year.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment gain of $7,972,887. $1,594,577 of that gain was recognized in the current year and an identical amount will be recognized in each of the next four years, resulting in a deferred inflow of resources of $6,378,310 (Division's share $1,339,445). The table below summarizes the current balances of deferred outflows and deferred inflows of resources along with the net recognition over the next five years. In addition, KUB recorded a deferred outflow of resources of $3,157,199 (Division's share $663,012) at June 30, 2015 for employer contributions made between December 31, 2014 and June 30, 2015.

| | Deferred Outflows of Resources | Deferred Inflows of Resources |
|---|---|---|
| Differences between expected and actual experience | $ - | $ - |
| Changes in assumptions | - | - |
| Net difference between projected and actual earnings on pension plan investments | - | 6,378,310 |
| Contributions subsequent to measurement date | 3,157,199 | - |
| Total | $ 3,157,199 | $ 6,378,310 |

For the year ended June 30, 2016, KUB recognized pension expense of $4,665,035 (Division's share $1,026,308).

The impact of experience gains or losses and assumption changes on the Total Pension Liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2014, this average was 5.00 years. During the measurement year, there were no assumption or benefit changes. There was an experience gain of $1,890,334 with $378,067 of that recognized in the current year and in each of the next four years.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment loss of $15,382,915. $3,076,583 of that loss was recognized in the current year and an identical amount will be recognized in each of the next four years. Unrecognized investment gains from prior periods were $6,378,310 of which $1,594,577 was recognized as a reduction in pension expense in the current year.

Experience gains this year created a deferred inflow of resources of $1,512,267 (Division's share $332,699). The combination of unrecognized investment losses this year along with unrecognized net investment gains from prior periods results in a deferred outflow of resources as of December 31, 2015 of $7,522,599 (Division's share $1,654,972). The table below summarizes the current balances of deferred outflows and deferred inflows of resources along with the net recognition over future years. In addition, KUB recorded a deferred outflow of resources of $2,834,692 (Division's share $623,632) at June 30, 2016 for employer contributions made between December 31, 2015 and June 30, 2016.

| | Deferred Outflows of Resources | Deferred Inflows of Resources |
|---|---|---|
| Differences between expected and actual experience | $ - | $ 1,512,267 |
| Changes in assumptions | - | - |
| Net difference between projected and actual earnings on pension plan investments | 7,522,599 | - |
| Contributions subsequent to measurement date | 2,834,692 | - |
| Total | $ 10,357,291 | $ 1,512,267 |

Amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:

| Year ended June 30: | |
|---|---|
| 2017 | $ 3,938,630 |
| 2018 | 1,103,939 |
| 2019 | 1,103,938 |
| 2020 | 2,698,517 |
| Thereafter | - |

## OTHER POST-EMPLOYMENT BENEFITS (OPEB)

The Governmental Accounting Standards Board (GASB) established standards for the measurement, recognition, and reporting of other post-employment benefits (OPEB). OPEB includes post-employment benefits other than pension, which, for KUB, is presently limited to post-employment health care. GASB Statement No. 45 (Statement No. 45) requires the recognition of the accrued OPEB liability for the respective year, plus the disclosure of the total unfunded liability.

KUB currently provides post-employment health care benefits to 585 former employees and 593 covered dependents. The cost of coverage is shared with retirees and beneficiaries. KUB recognizes its share of the cost of post-employment health care benefits as an expense as claims are paid.

KUB amended its Group Health Plan in 1999, eliminating post-employment health care benefits for all employees hired on or after July 1, 1999. As of June 30, 2016, 356 active employees were eligible for individual and dependent coverage at separation. To qualify, the employee must meet the Rule of 80 (age plus years of service) with a minimum of 20 years of service, and be enrolled in medical coverage on their last day.

In May 2006, the State of Tennessee adopted Tennessee Code Annotated, Title 8, Chapter 50, Part 12 authorizing governmental entities to establish Trusts for the purpose of pre-funding their respective OPEB liabilities.

Although Statement No. 45 does not require pre-funding of the liability, KUB has determined that it is in the long-term economic interest of KUB and its ratepayers to establish a Trust to pre-fund KUB's OPEB liability.

Knoxville Utilities Board Other Post-Employment Benefits Trust (the "Trust") is a single-employer Other Post-Employment Benefits Plan established by the Knoxville Utilities Board (KUB) Board of Commissioners through Resolution No. 1168, as amended, dated October 18, 2007. The applicable documentation was submitted to the State Funding Board and, in December 2007, the State Funding Board approved the Trust. The Trust was also approved by the Internal Revenue Service in June 2008. KUB administers the Trust through a Board of Trustees consisting of seven KUB employees that are appointed by KUB's President and CEO. Any amendments to the Trust involving costs not approved in the operating budget must be approved by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Trust may be approved by KUB's President and CEO upon 60 days notification to the KUB Audit and Finance Committee. The investment of all deposits to the Trust is governed by an Investment Policy, which was adopted by the KUB Board and approved by the State Funding Board.

KUB makes annual contributions to the Trust at an actuarially determined rate. Based on the date of retirement, certain retired plan members are required to contribute specified amounts monthly to maintain health insurance. Those who retired prior to July 1983 have no required monthly premiums for themselves or dependents. The retirees, or their surviving dependents, who retired between August 1983 and January 1998 are required to pay $250 per month for pre-Medicare family health insurance. For individuals who retired after January 1998, the required monthly premium for pre-Medicare health insurance is $250 for single coverage and $500 for family coverage. There is currently no premium for Medicare eligible retirees or dependents.

An actuarial valuation of KUB's Postretirement Benefit Plan was performed for the Trust as of January 1, 2014 for fiscal year June 30, 2015 and January 1, 2015 for fiscal year June 30, 2016. The following table presents the OPEB cost for the year, the amount contributed to the Trust, and changes in the net OPEB obligation for fiscal year ending June 30:

*[balance of page left blank]*

| | | 2016 | | 2015 |
|---|---|---|---|---|
| **a)** Net OPEB Obligation/(Asset) at beginning of fiscal year | $ | (174,410) | $ | (177,322) |
| **b)** Annual Required Contribution (ARC) | | 953,221 | | 3,497,372 |
| **c)** Interest on Net OPEB Obligation/(Asset) | | (13,081) | | (14,186) |
| **d)** Adjustment to ARC | | (16,427) | | (17,098) |
| **e)** Annual OPEB Cost **(b+c-d)** | | 956,567 | | 3,500,284 |
| **f)** Employer Contributions | | 953,221 | | 3,497,372 |
| **g)** Net OPEB Obligation/(Asset) at end of fiscal year **(a+e-f)** | $ | (171,064) | $ | (174,410) |

KUB's annual OPEB cost, the percentage of annual OPEB cost contributed to the Trust, and the net OPEB obligation for fiscal year 2016 and the two preceding years were as follows:

**Schedule of Employer Contributions**

| Actuarial Valuation Date | Employer Fiscal Year | Annual Required Contribution | Fiscal Year Actual Contribution | Percentage Contributed | Net OPEB Obligation |
|---|---|---|---|---|---|
| 1/1/2012 | 6/30/2014 | 3,327,412 | 4,057,091 | 121.93% | (177,322) |
| 1/1/2013 | 6/30/2015 | 3,497,372 | 3,497,372 | 100.00% | (174,410) |
| 1/1/2014 | 6/30/2016 | 953,221 | 953,221 | 100.00% | (171,064) |

Total contributions to the OPEB Trust for the fiscal year ended June 30, 2016 were $953,221 (Division's share $209,708). The contribution to the Trust was consistent with the annual required contribution, as determined by the Postretirement Benefit Plan's actuarial valuation as of January 1, 2014, which was $953,211 (Division's share $209,708). As of June 30, 2016, the employer's OPEB obligation has been exceeded by $171,064 (Division's share $37,634).

The annual required contribution for the fiscal year ending June 30, 2017, as determined by the Plan's actuarial valuation as of January 1, 2015 is $620,015 (Division's share $136,403).

The actuarial valuation for the Plan as of January 1, 2016 has been completed. The valuation determined that the Plan's actuarial accrued liability was $45,118,624 (Division's share $9,926,097). The actuarial value of the Plan's assets was $48,510,796 (Division's share $10,672,375). As a result, the Plan's unfunded actuarial accrued liability was ($3,392,172) (Division's share ($746,278)). The Plan's actuarial funded ratio was 108 percent. Due to the future implementation of GASB 75, the contributions made for fiscal year ending June 30, 2018 will be the actuarially determined contribution instead of the annual required contribution and the actuarial cost method used to determine the contributions will change from the projected unit credit cost method to the entry age normal cost method. The actuarially determined contribution for fiscal year ending June 30, 2018 will be zero. See Required Supplementary Information for OPEB Schedule of Funding Progress.

The actuarial valuations dated January 1, 2015 and 2016, which determine the annual required contribution and actuarially determined contribution for future fiscal years ending June 30, 2017 and 2018, have not been audited.

Actuarial valuations involve estimates of the value of reported amounts and assumptions about the probability of events far into the future, and actuarially determined amounts are subject to continual revision as actual results are compared to past expectations and new estimates are made about the future.

The required schedule of funding progress immediately following the notes to the financial statements presents multi-year trend information about whether the actuarial value of Trust assets is increasing or decreasing over time relative to the actuarial accrued liability for benefits.

Calculations are based on the benefits provided under the terms of the substantive plan in effect at the time of each valuation and on the pattern of sharing of costs between the employer and plan members to that point.

Actuarial calculations reflect a long-term perspective. Consistent with that perspective, actuarial methods and assumptions used include techniques that are designed to reduce short-term volatility in actuarial accrued liabilities and the actuarial value of assets.

Identification of actuarial methods and significant assumptions used to determine the annual required contribution for the fiscal year ending June 30, 2016:

| | |
|---|---|
| I. Actuarial cost method | Projected unit credit cost method |
| II. Actuarial value of assets | Smoothed market value with phase-in method using a smoothing period of 5 years |
| III. Investment return | 7.5%, based on the expected portfolio return |
| Projected salary increases | N/A |
| Healthcare cost Trend: | |
| Medicare | 2014 - 2030+, ranging from 4.5% to 7.45% |
| Non-Medicare | 2014 - 2030+, ranging from 4.5% to 8.75% |
| IV. Amortization method | Level dollar closed (30-year) |
| Remaining amortization period | 22 years |

The Trust issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017.

## FISCAL YEAR 2017 FINANCIAL UPDATE

For the five months ending November 30, 2016, KUB’s Wastewater Division recorded earnings of $7.1 million, representing an increase of $1.6 million compared to the same period last fiscal year. Billed sales volumes were 0.6 percent higher than the same period last fiscal year.

The Wastewater Division sold $20 million in revenue bonds in July 2016 for the purpose of funding wastewater system capital improvements. As of November 30, 2016, the Wastewater Division had $512.3 million in outstanding debt, representing a debt to capitalization ratio of 64.8 percent. The Wastewater Division’s current maximum debt service coverage ratio is projected to be 1.64.

Capital investment in wastewater system infrastructure is projected to be approximately $40.9 million for Fiscal Year 2017, reflecting KUB’s continued commitment to collection system replacement and treatment plant upgrades.

## WASTEWATER RATES

The current rate schedules of the Wastewater Division are as follows:

## *WASTEWATER GENERAL SERVICE – RESIDENTIAL RATE SCHEDULE*

### Availability

Service under this rate schedule shall be available only to residential customers served individually through a separate meter.

An existing customer or applicant for service under this schedule may be required to execute a contract specifying, among other things, a minimum bill and minimum term for service under this schedule.

### Rate

The Wastewater Service Charge shall be calculated using the applicable rate tables provided below, based on the customer's water usage and water meter size with the following exceptions:

For customers whose wastewater discharge volumes are metered separately from their water usage, the metered wastewater discharge volumes will be used to calculate Service Charges under this schedule. The meter size used to calculate the Additional Monthly Charge under this schedule will be the largest equivalent water meter size as determined by KUB.

If neither the customer's water usage nor wastewater discharge volumes are metered, the average water usage and water meter size of comparable metered customers as determined by KUB will be used to calculate the charges under this schedule.

In the event more than one meter is utilized to determine billed consumption, multiple customer charges may apply. Charges will apply without regard to ownership of the meter(s).

### I. Inside City Rate

For wastewater service provided to premises entirely within the corporate limits of the City of Knoxville:

Customer Charge

| | |
|---|---|
| 5/8" meter | $ 29.00 |
| 1" meter | $ 44.00 |
| 1 ½" meter | $ 56.00 |
| 2" meter | $ 76.00 |

For meters greater than 2" the Customer Charges listed in the Wastewater Nonresidential schedule shall be utilized.

Commodity Charge

| | |
|---|---|
| First | 2 Ccf at $ 0.70 per Ccf |
| Over | 2 Ccf at $ 8.70 per Ccf |

## II. Outside City Rate

For wastewater service provided to premises entirely or partly outside the corporate limits of the City of Knoxville:

Customer Charge

| | |
|---|---|
| 5/8” meter | $ 33.00 |
| 1” meter | $ 47.00 |
| 1 1/2" meter | $ 64.00 |
| 2” meter | $ 84.00 |

For meters greater than 2” the Customer Charges listed in the Wastewater Nonresidential schedule shall be utilized.

Commodity Charge

| | |
|---|---|
| First | 2 Ccf at $ 0.85 per Ccf |
| Over | 2 Ccf at $ 9.30 per Ccf |

### Additional Charges

In addition to the wastewater service charge, users whose wastewater has strength characteristics in excess of normal domestic wastewater shall pay an Extra Strength Surcharge as set forth in Schedule B. A Sewer Improvement Charge may also be payable as set forth in Schedule D.

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

## *WASTEWATER GENERAL SERVICE – NONRESIDENTIAL RATE SCHEDULE*

### Availability

Service under this rate schedule shall be available to any commercial or industrial customer.

An existing customer or applicant for service under this schedule may be required to execute a contract specifying, among other things, a minimum bill and minimum term for service under this schedule.

## Rate

The Wastewater Service Charge shall be calculated using the applicable rate tables provided below, based on the customer's water usage and water meter size with the following exceptions:

For customers whose wastewater discharge volumes are metered separately from their water usage, the metered wastewater discharge volumes will be used to calculate Service Charges under this schedule. The meter size used to calculate the Additional Monthly Charge under this schedule will be the largest equivalent water meter size as determined by KUB.

If neither the customer's water usage nor wastewater discharge volumes are metered, the average water usage and water meter size of comparable metered customers as determined by KUB will be used to calculate the charges under this schedule.

In the event more than one meter is utilized to determine billed consumption, multiple customer charges may apply. Charges will apply without regard to ownership of the meter(s).

### 1. Inside City

For wastewater service provided to premises entirely within the corporate limits of the City of Knoxville:

Customer Charge

| | |
|---|---|
| 5/8" meter | $ 29.00 |
| 1" meter | $ 44.00 |
| 1 ½" meter | $ 56.00 |
| 2" meter | $ 76.00 |
| 3" meter | $ 138.00 |
| 4" meter | $ 225.00 |
| 6" meter | $ 480.00 |
| 8" meter | $ 834.00 |
| 10" meter | $ 1,265.00 |
| 12" meter | $ 1,862.00 |

Commodity Charge

| | |
|---|---|
| First | 2 Ccf at $ 0.85 per Ccf |
| Next | 8 Ccf at $11.10 per Ccf |
| Next | 90 Ccf at $ 9.90 per Ccf |
| Next | 300 Ccf at $ 8.50 per Ccf |
| Next | 4,600 Ccf at $ 6.90 per Ccf |
| Over | 5,000 Ccf at $ 4.30 per Ccf |

*[balance of page left blank]*

## II. Outside City Rate

For wastewater service provided to premises entirely or partly outside the corporate limits of the City of Knoxville:

### Customer Charge

| | |
|---|---|
| 5/8” meter | $ 33.00 |
| 1” meter | $ 47.00 |
| 1 1/2" meter | $ 64.00 |
| 2” meter | $ 84.00 |
| 3” meter | $ 156.00 |
| 4” meter | $ 249.00 |
| 6” meter | $ 527.00 |
| 8” meter | $ 918.00 |
| 10” meter | $ 1,386.00 |
| 12” meter | $ 2,046.00 |

### Commodity Charge

| | |
|---|---|
| First | 2 Ccf at $ 1.00 per Ccf |
| Next | 8 Ccf at $12.25 per Ccf |
| Next | 90 Ccf at $10.85 per Ccf |
| Next | 300 Ccf at $ 9.30 per Ccf |
| Next | 4,600 Ccf at $ 7.75 per Ccf |
| Over | 5,000 Ccf at $ 4.80 per Ccf |

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

## *Schedule B – EXTRA STRENGTH SURCHARGES*

### Applicability

For user whose discharge of wastewater contains a quantity of BOD in excess of 2,000 pounds per million gallons (240 mg/l), and a quantity of suspended solids in excess of 2,500 pounds per million gallons (300 mg/l), an additional charge, based on the following schedule, shall be applied to the excess contribution, as determined by laboratory analysis of the user’s discharge. This Extra Strength Surcharge is in addition to all other charges that may be applicable under KUB’s rate schedules.

*[balance of page left blank]*

### Rate

| | |
|---|---|
| BOD | $12.35 per hundred pounds of excess |
| Suspended Solids | $11.70 per hundred pounds of excess |

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

## *SCHEDULE C – HOLDING TANK AND SPECIAL WASTE CHARGES*

### Domestic Waste (Commercial Waste Disposal)

For users engaged in the business of cleaning wastewater and wastewater residues from septic tanks and other private disposal systems, a domestic waste discharge permit is required and certain fees and charges are assessed against those users.

(1) Annual Access Fee:

The annual access fee for the use of KUB's disposal facilities shall be $100.00 per fiscal year, per permitted vehicle. The full fee shall be payable for any fraction of the fiscal year. Bills under this section will be rendered annually at the beginning of KUB's fiscal year or such later time during the fiscal year that service is commenced.

(2) Domestic Waste Discharge Rate:

Each load of Domestic Waste discharged to KUB's facilities shall be subject to a Discharge Rate of $88.80 per 1,000 gallons. Bills under this section will be rendered monthly.

### Special Waste

For users who dispose of any other waste from any tank, pond, pit or other source into the KUB system, a special waste discharge permit is required and the following fees and charges will be assessed against those users.

(1) Special Waste Discharge Permit Application Fee:

A special Wastewater Discharge Permit must be obtained before any Special Waste may be discharged into KUB's facilities. The application fee for such permit is $75.00. The application fee is non-refundable and is applicable whether or not the application is approved or the permit issued. The fee must be paid prior to discharge.

*[balance of page left blank]*

(2) Special Waste Discharge Fee:

Due to the widely differing character of Special Wastes, the Discharge Fee shall vary, but, at a minimum, the Fee will be the sum of the Wastewater Service Charge as set forth by the Nonresidential Rate Schedule of the Wastewater Division of KUB plus the Extra Strength Surcharges as set forth in Schedule B to the Rate Schedules of the Wastewater Division of KUB. In addition to those charges set forth in the aforementioned Schedules, the Customer will be required to pay the cost to KUB of analyzing, or providing special handling for, the Customer's Special Waste, plus a reasonable charge for the impact that the Special Waste is expected to have on the KUB treatment facilities as determined by KUB. Bills under this section will be rendered upon completion of the discharge.

### Operating Procedures

KUB shall establish operating procedures including such items as permit issuance, acceptable wastes, disposal locations, reporting and billing methods for the implementation of this Rate Schedule C, which may be changed from time to time by KUB.

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

## *SCHEDULE D – SEWER IMPROVEMENT CHARGE*

### Applicable Charges

All properties connected or having access to the wastewater system shall be subject to a Sewer Improvement Charge which shall be determined as follows:

For all users not described in paragraph A (2), or A (3), the Sewer Improvement Charge shall be an amount equal to the Contribution in Aid of Construction determined in accordance with the provisions of Section 33-19 of the Rules and Regulations for the Wastewater Division that may from time to time be in effect. Any contribution in Aid of Construction that is assessed under Section 33-19 (b) of the Rules and Regulations on or after December 1, 1992 may, at the customer's option, be paid as a part of the customer's utility bill in monthly installments for a period not to exceed ten (10) years at an annual interest rate of nine percent (9%).

For all users that: (i) on December 1, 1992 are being assessed, or which properly should be assessed, a Sewer Improvement Charge under the terms of this Schedule D as it existed immediately prior to December 1, 1992 or, (ii) which are located in areas annexed into the corporate limits of the City of Knoxville pursuant to Ordinance No. 0-31-87, the Sewer Improvement Charge shall be calculated on multiples of a basic charge (the "Basic Charge"), which shall be Six Hundred Seventy -Five Dollars ($675.00). At the customer's option, the Sewer Improvement Charge may be paid as a part of the customer's utility bill in monthly installments of Three and 25/100 dollars ($3.25) for the three hundred sixty (360) months. Sewer Improvement Charges assessed under the terms of this paragraph A (2) shall be calculated as follows:

(a) Each user consisting of a single-family dwelling shall pay a Sewer Improvement Charge equal to the Basic Charge, regardless of area.

(b) Each multifamily, commercial or industrial user shall pay a Sewer Improvement Charge based on the greater of the following two calculations:

(i) Area/meter basis: The lesser of (a) the Basic charge times the square footage of the area of the property divided by 15,000 or (b) the Basic Charge times the following multiples based on meter size:

| Meter Size | Multiple |
|---|---|
| 5/8” | 1 |
| ¾” | 1.5 |
| 1” | 2.5 |
| 1 ½” | 5 |
| 2” | 8 |
| 3” | 15 |
| 4” | 25 |
| 6” | 50 |
| 8” | 80 |
| 10” | 120 |
| 12” | 155 |

* If a user is served by more than one meter, the multiple used shall be the sum of the multiple computed on each meter.

(ii) Frontage Basis – the Basic Charge times the total frontage of the property measured in feet at the building line parallel to the street along which the property lies for the greater distance divided by 100.

(c) For service to users located entirely or partly outside the corporate limits of the City of Knoxville, the Sewer Improvement Charge imposed under this paragraph A (2) shall be one and one-half (1-1/2) times the above schedule of charges.

(d) Any user charged a Sewer Improvement Charge under this paragraph A (2) that reconnects to the Wastewater system on or after December 1, 1992 because of a change in the level or character of the user’s wastewater service shall upon such reconnection be subject to the Sewer Improvement Charge calculated under paragraph A (1) hereof.

For all property located in a Transfer Area, that is subject to a Fee Agreement, the user shall be subject to a Sewer Improvement Charge equal in amount to the payments that would have been owed under the Fee Agreement for the affected property, assuming the Fee Agreement remained in effect for its duration, adjusted in accordance with KUB’s policies for any additional property users as permitted under the Fee Agreement, less a credit for any payments actually paid to KUB under the Fee Agreement. Except as otherwise provided herein, Sewer Improvement Charges assessed under this paragraph A (3) shall be paid on the same terms provided in the Fee Agreement for the affected property. As used herein" (i) the term "Transfer Area" shall mean an area: (a) that was previously provided wastewater service by a municipal utility (other than KUB) or a utility district, and (b) with respect to which KUB acquired or otherwise succeeded to the right to provide wastewater service; and (ii) the term "Fee Agreement" shall mean a contract or other agreement entered into between the owner or other user of a tract of property and a municipal utility (other than KUB) or a utility district, by the terms of which the owner or other user of the property agrees to pay all or any part of the cost of extending wastewater lines and facilities to such property or otherwise making wastewater service available to such property.

### Deferral of Payment

A Sewer Improvement Charge shall not be billed or collectible for any monthly billing for any period for which a wastewater service charge is not payable.

### Prepayment

A customer who has elected to pay the Sewer Improvement Charge in monthly installments may thereafter prepay the balance of such charge in whole (but not in part) in an amount equal to the unamortized balance of the Sewer Improvement charge as of the date of such prepayment.

### Installment Terms

A customer who has elected to pay the Sewer Improvement Charge in monthly installments pursuant to paragraph A (1) shall be obligated to make such payments at the rate of interest and length of payment period specified in this Schedule D as of the date of the customer's election, notwithstanding customer's right of prepayment.

### Definitions

The defined terms in this Schedule D shall have the meanings given to them from time to time in the Rules and Regulations for Wastewater Division.

### Rules and Regulations

Service is subject to Rules and Regulations of KUB.

## *SCHEDULE E – WHOLESALE WASTEWATER TREATMENT*

Service under this Schedule shall be available only to governmental entities, including Utility Districts, that deliver through their wastewater collection system all or portions of their wastewater flow to KUB facilities for treatment. Applicants under this schedule may be required to execute a contract specifying, among other things, a minimum bill and minimum term for service under this schedule.

*[balance of page left blank]*

## Rate

| | |
|---|---|
| Metered Flows | $4.40 per Thousand Gallons |
| Unmetered Flows | $5.00 per Thousand Gallons |

For the purpose of determining billing volumes, metered flows are those flows metered at the point of delivery to KUB's collection system, pumping station or treatment facility; unmetered flows are those flows based upon the actual water use of the customers served by the collection system discharging to KUB's facilities, said water use being determined by the water meter readings furnished by the water service provider.

## Rules and Regulations

Service is subject to Rules and Regulations of KUB.

*[balance of page left blank]*

# KNOXVILLE UTILITIES BOARD
## WASTEWATER DIVISION
### CAPITALIZATION HISTORY

| Historical | Fiscal Year | Accumulated Earnings | Contributed Capital | Revenue Bonds | Revenue Notes | Total Capitalization | Debt as % of Capitalization |
|---|---|---|---|---|---|---|---|
| Restated [1] | 2007 | $ 179,542,011 | $ - | $ 190,535,000 | $ - | $ 370,077,011 | 51.49% |
| | 2008 | $ 195,217,359 | $ - | $ 263,460,000 | $ - | $ 458,677,359 | 57.44% |
| | 2009 | $ 209,932,351 | $ - | $ 306,295,000 | $ - | $ 516,227,351 | 59.33% |
| | 2010 | $ 218,192,589 | $ - | $ 334,005,000 | $ - | $ 552,197,589 | 60.49% |
| | 2011 | $ 227,596,321 | $ - | $ 398,405,000 | $ - | $ 626,001,321 | 63.64% |
| | 2012 | $ 239,554,829 | $ - | $ 390,745,000 | $ - | $ 630,299,829 | 61.99% |
| | 2013 | $ 248,325,320 | $ - | $ 458,595,000 | $ - | $ 706,920,320 | 64.87% |
| | 2014 | $ 253,999,330 | $ - | $ 450,050,000 | $ - | $ 704,049,330 | 63.92% |
| | 2015 | $ 261,594,704 | $ - | $ 503,260,000 | $ - | $ 764,854,704 | 65.80% |
| | 2016 | $ 271,115,564 | $ - | $ 492,330,000 | $ - | $ 763,445,564 | 64.49% |

[1] The financial statements for 2007 have been restated to reflect the correction of an understatement of developer contributions. The effect of the restatement was to increase Net Assets, Wastewater Plant in Service and Developer Contributions by $2,935,648 for Fiscal Year 2007. This restatement has been derived from the Annual Audited Financial Statements for the Knoxville Utilities Board and should be read in conjunction therewith.

# KNOXVILLE UTILITIES BOARD
# WASTEWATER DIVISION
## OPERATING STATISTICS
for the Fiscal Years ending on June 30

| **Revenues:** | **2012** | **2013** | **2014** | **2015** | **2016** |
|---|---|---|---|---|---|
| Service Charge | $ 65,896,961 | $ 69,832,945 | $ 71,109,817 | $ 75,004,494 | $ 79,418,091 |
| Industrial Surcharge | 497,618 | 442,707 | 394,995 | 412,718 | 246,459 |
| Other Charges | 584,605 | 659,451 | 698,362 | 647,804 | 582,525 |
| Utility Districts | 814,316 | 759,489 | 311,727 | 331,220 | 334,779 |
| Total Sales Revenues | $ 67,793,501 | $ 71,694,591 | $ 72,514,901 | $ 76,396,236 | $ 80,581,854 |
| Other Revenues | $ 2,708,993 | $ 2,884,722 | $ 2,526,744 | $ 2,809,792 | $ 3,063,655 |
| **Total Revenues** | **$ 70,502,494** | **$ 74,579,313** | **$ 75,041,645** | **$ 79,206,028** | **$ 83,645,509** |

## NUMBER OF CUSTOMERS - WASTEWATER

| **Fiscal Year** | **Total** | **New Customers** |
|---|---|---|
| 06 / 07 | 67,434 | 1,572 |
| 07 / 08 | 68,357 | 923 |
| 08 / 09 | 68,314 | -43 |
| 09 / 10 | 68,906 | 592 |
| 10 / 11 | 68,744 | -162 |
| 11 / 12 | 69,183 | 439 |
| 12 / 13 | 69,528 | 345 |
| 13 / 14 | 69,613 | 85 |
| 14 / 15 | 69,847 | 234 |
| 15 / 16 | 70,265 | 418 |

# KNOXVILLE UTILITIES BOARD
# WASTEWATER DIVISION

## CONDENSED STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION

For The Fiscal Years Ended June 30

| | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|
| **Operating Revenues:** | $ 70,502,494 | $ 74,579,313 | $ 75,041,645 | $ 79,206,028 | $ 83,645,509 |
| | | | | | |
| **Operating Expenses:** | | | | | |
| Treatment | $ 9,255,855 | $ 10,402,381 | $ 10,768,467 | $ 11,596,638 | $ 12,515,728 |
| Collection | 7,441,286 | 7,265,544 | 7,794,582 | 8,608,980 | 7,462,333 |
| Customer services | 1,944,802 | 2,457,565 | 2,605,271 | 2,837,597 | 2,961,518 |
| Administrative and general | 6,278,420 | 7,697,218 | 8,483,808 | 7,845,973 | 8,571,620 |
| Provision for deprec. & amortization | 12,911,050 | 14,454,762 | 16,086,344 | 17,130,721 | 18,342,674 |
| Taxes and tax equivalents | 3,624,508 | 3,856,206 | 4,092,366 | 4,300,666 | 4,537,378 |
| **Total Operating Expenses** | $ 41,455,921 | $ 46,133,676 | $ 49,830,838 | $ 52,320,575 | $ 54,391,251 |
| | | | | | |
| Operating Income | $ 29,046,573 | $ 28,445,637 | $ 25,210,807 | $ 26,885,453 | $ 29,254,258 |
| | | | | | |
| **Non-Operating Revenues / Expenses:** | | | | | |
| Contributions in aid of construction | $ 247,356 | $ 225,764 | $ 916,996 | $ 394,551 | $ 652,525 |
| Interest and dividend income | 561,662 | 372,644 | 291,711 | 301,292 | 461,544 |
| Interest expense | (19,313,566) | (19,841,107) | (19,263,722) | (19,355,169) | (20,168,993) |
| Loss on write down of plant assets | (247,356) | (225,764) | (916,996) | (394,551) | (652,525) |
| Other | (202,824) | (350,663) | (836,436) | (433,013) | (716,631) |
| **Total Non-Operating** | $ (18,954,728) | $ (19,819,126) | $ (19,808,447) | $ (19,486,890) | $ (20,424,080) |
| | | | | | |
| Changes in Net Position before Capital Contributions | $ 10,091,845 | $ 8,626,511 | $ 5,402,360 | $ 7,398,563 | $ 8,830,178 |
| | | | | | |
| **Capital Contributions** | 1,866,665 | 143,980 | 271,650 | 357,246 | 690,682 |
| | | | | | |
| Change in Net Position | $ 11,958,510 | $ 8,770,491 | $ 5,674,010 | $ 7,755,809 | $ 9,520,860 |
| | | | | | |
| Net Position, beginning of year | $ 227,596,319 | $ 239,554,829 | $ 248,325,320 | $ 253,999,330 | $ 261,594,704 |
| Adjustment | - | - | - | (160,435) | - |
| | | | | | |
| **Net Position, end of year** | **$ 239,554,829** | **$ 248,325,320** | **$ 253,999,330** | **$ 261,594,704** | **$ 271,115,564** |

*Source:* The above amounts have been derived from the Annual Audited Financial Statements for the Knoxville Utilities Board, Wastewater Division and the Board's internal financial records and should be read in conjunction therewith.

## TEN LARGEST WASTEWATER SYSTEM CUSTOMERS - 2016

The ten largest Wastewater System customers, as of June 30, 2016, in order of total sales generated are listed below. Those ten wastewater customers represent 14.28% of the total wastewater sales based on revenue and 18.80% of the total wastewater based on sales volume.

| | Customer | Usage (000s Gallons) | Sales Revenue | Percent of Sales Revenue |
|---|---|---|---|---|
| 1. | University of Tennessee | 619,979 | $ 4,618,537 | 5.73% |
| 2. | KCDC | 173,514 | $ 1,375,294 | 1.71% |
| 3. | Pepsi Bottling Group Inc | 156,164 | $ 946,618 | 1.17% |
| 4. | Rohm & Haas Tennessee Inc | 163,424 | $ 852,092 | 1.06% |
| 5. | University Health Systems Inc | 147,498 | $ 852,014 | 1.06% |
| 6. | City of Knoxville | 102,892 | $ 775,127 | 0.96% |
| 7. | Knox County Schools | 59,564 | $ 635,407 | 0.79% |
| 8. | Knoxville HMA Holdings LLC | 71,247 | $ 524,480 | 0.65% |
| 9. | Volunteer Knit Apparel Plt#4 | 89,805 | $ 523,992 | 0.65% |
| 10. | Processed Food Corporation | 52,890 | $ 406,417 | 0.50% |
| | **TOTAL** | **1,636,977** | **$ 11,509,978** | **14.28%** |

| | | |
|---|---|---|
| Total Wastewater Sales Revenue | | $80,581,854 |
| Top 10 as Percent of Total Wastewater Sales Revenue | | 14.28% |
| Total Wastewater Sales Volume (000s gal) | 8,707,035 | |
| Top 10 as Percent of Total Wastewater Sales Volume | 18.80% | |

# KNOXVILLE UTILITIES BOARD
# WASTEWATER DIVISION
## BONDS OUTSTANDING

The following table shows the outstanding bond indebtedness of the Wastewater Division.

| Amount Issued | Series | Due Date | Interest Rates | Outstanding as of August 05, 2016 (1) |
|---|---|---|---|---|
| $ 21,850,000 | Wastewater System Revenue Refunding Bonds, Series 2005B | 04-01-27 | Fixed | $ 14,635,000 |
| 45,000,000 | Wastewater System Revenue Bonds, Series 2008 | 04-01-25 | Fixed | 6,550,000 |
| 30,000,000 (2) | Wastewater System Revenue Bonds, Series 2010 (Federally Taxable Build America Bonds) | 04-01-45 | Fixed | 30,000,000 |
| 70,000,000 (2) | Wastewater System Revenue Bonds, Series 2010C (Federally Taxable Build America Bonds) | 04-01-40 | Fixed | 64,500,000 |
| 17,070,000 | Wastewater System Revenue Refunding Bonds, Series 2012A | 04-01-29 | Fixed | 14,595,000 |
| 65,000,000 | Wastewater System Revenue Bonds, Series 2012B | 04-01-47 | Fixed | 62,350,000 |
| 113,340,000 | Wastewater System Revenue Bonds, Series 2013A | 04-01-37 | Fixed | 111,715,000 |
| 30,000,000 | Wastewater System Revenue Bonds, Series 2014A | 04-01-49 | Fixed | 29,200,000 |
| 129,825,000 | Wastewater System Revenue Refunding Bonds, Series 2015A | 04-01-42 | Fixed | 129,360,000 |
| 30,000,000 | Wastewater System Revenue Bonds, Series 2015B | 04-01-50 | Fixed | 29,425,000 |
| 20,000,000 | Wastewater System Revenue Bonds, Series 2016 (Issued 8-5-2016) | 04-01-46 | Fixed | 20,000,000 |
| $ 572,085,000 | **TOTAL DEBT** | | | $ 512,330,000 |
| $ 13,425,000 | Wastewater System Revenue Refunding Bonds, Series 2017A | 04-01-27 | Fixed | $ 13,425,000 |
| (21,850,000) | Less: Bonds being Refinanced (Series 2005B) | | | (13,165,000) |
| $ 563,660,000 | **TOTAL INDEBTEDNESS** | | | $ 512,590,000 |

**NOTES:**

(1) The above figures do not include short-term notes outstanding, if any. For more information, see the notes to the Financial Statements in the FINANCIAL STATEMENTS included herein.

(2) The original federal subsidy of 35.0% on the Wastewater System Revenue Bonds, Series 2010 (Federally Taxable Build America Bonds) and the Wastewater System Revenue Bonds, Series 2010C (Federally Taxable Build America Bonds) has been reduced by 6.8% for the federal fiscal year ending September 30, 2016 and by 6.9% for the federal fiscal year ending September 30, 2017 as a result of the sequestration by the Budget Control Act of 2011. After October 1, 2017, the sequestration rate will be subject to change.

# KNOXVILLE UTILITIES BOARD
# WASTEWATER DIVISION
## DEBT SERVICE REQUIREMENTS

| | Outstanding Fiscal Year Debt Service on Bonds - as of August 05, 2016 | | | | Estimated Wastewater System Revenue Refunding Bonds, Series 2017A | | | % Principal Repaid on Series | Less: Bonds Being Refunded | | | NET TOTAL DEBT SERVICE (1) | | | | % Principal Repaid on |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Fiscal Year | Principal | Interest | Est. Rebate (2) | Total | Principal | Interest (3) | Total | 2017A Bonds | Principal | Interest | Total | Principal | Interest | Est. Rebate (2) | Total | All Debt |
| 2017 | $ 11,280,000 | $ 20,213,746 | $ (1,940,591) | $ 29,553,155 | $ - | $ - | $ - | 0.00% | $ - | $ - | $ - | $ 11,280,000 | $ 20,213,746 | $ (1,940,591) | $ 29,553,155 | 2.20% |
| 2018 | 11,830,000 | 19,979,810 | (1,923,049) | 29,886,761 | 1,710,000 | 278,006 | 1,988,006 | | (1,525,000) | (561,385) | (2,086,385) | 12,015,000 | 19,696,431 | (1,923,049) | 29,788,382 | |
| 2019 | 12,260,000 | 19,500,035 | (1,902,469) | 29,857,566 | 1,730,000 | 263,605 | 1,993,605 | | (1,595,000) | (498,860) | (2,093,860) | 12,395,000 | 19,264,780 | (1,902,469) | 29,757,311 | |
| 2020 | 12,795,000 | 18,995,056 | (1,879,847) | 29,910,210 | 1,755,000 | 233,330 | 1,988,330 | | (1,655,000) | (433,066) | (2,088,066) | 12,895,000 | 18,795,320 | (1,879,847) | 29,810,474 | |
| 2021 | 13,305,000 | 18,471,176 | (1,856,495) | 29,919,682 | 1,790,000 | 199,985 | 1,989,985 | 52.03% | (1,725,000) | (363,556) | (2,088,556) | 13,370,000 | 18,307,605 | (1,856,495) | 29,821,111 | 12.09% |
| 2022 | 13,890,000 | 17,861,009 | (1,832,413) | 29,918,596 | 1,830,000 | 162,395 | 1,992,395 | | (1,800,000) | (290,244) | (2,090,244) | 13,920,000 | 17,733,160 | (1,832,413) | 29,820,747 | |
| 2023 | 14,495,000 | 17,221,219 | (1,804,924) | 29,911,295 | 1,875,000 | 120,305 | 1,995,305 | | (1,880,000) | (212,844) | (2,092,844) | 14,490,000 | 17,128,680 | (1,804,924) | 29,813,756 | |
| 2024 | 15,165,000 | 16,560,469 | (1,775,401) | 29,950,068 | 655,000 | 75,305 | 730,305 | | (695,000) | (130,594) | (825,594) | 15,125,000 | 16,505,180 | (1,775,401) | 29,854,779 | |
| 2025 | 15,705,000 | 16,022,838 | (1,741,408) | 29,986,430 | 675,000 | 58,275 | 733,275 | | (730,000) | (100,188) | (830,188) | 15,650,000 | 15,980,925 | (1,741,408) | 29,889,518 | |
| 2026 | 14,095,000 | 15,476,425 | (1,704,894) | 27,866,531 | 695,000 | 40,050 | 735,050 | 94.71% | (765,000) | (68,250) | (833,250) | 14,025,000 | 15,448,225 | (1,704,894) | 27,768,331 | 26.37% |
| 2027 | 14,695,000 | 14,959,956 | (1,659,258) | 27,995,698 | 710,000 | 20,590 | 730,590 | | (795,000) | (34,781) | (829,781) | 14,610,000 | 14,945,765 | (1,659,258) | 27,896,507 | |
| 2028 | 15,190,000 | 14,405,125 | (1,609,471) | 27,985,654 | - | - | - | | - | - | - | 15,190,000 | 14,405,125 | (1,609,471) | 27,985,654 | |
| 2029 | 15,765,000 | 13,831,488 | (1,556,236) | 28,040,252 | - | - | - | | - | - | - | 15,765,000 | 13,831,488 | (1,556,236) | 28,040,252 | |
| 2030 | 16,495,000 | 13,259,075 | (1,500,441) | 28,253,634 | - | - | - | | - | - | - | 16,495,000 | 13,259,075 | (1,500,441) | 28,253,634 | |
| 2031 | 17,090,000 | 12,672,969 | (1,442,088) | 28,320,881 | - | - | - | 100.00% | - | - | - | 17,090,000 | 12,672,969 | (1,442,088) | 28,320,881 | 41.81% |
| 2032 | 17,685,000 | 12,059,644 | (1,379,613) | 28,365,031 | - | - | - | | - | - | - | 17,685,000 | 12,059,644 | (1,379,613) | 28,365,031 | |
| 2033 | 18,325,000 | 11,422,506 | (1,314,513) | 28,432,994 | - | - | - | | - | - | - | 18,325,000 | 11,422,506 | (1,314,513) | 28,432,994 | |
| 2034 | 18,950,000 | 10,765,313 | (1,246,263) | 28,469,050 | - | - | - | | - | - | - | 18,950,000 | 10,765,313 | (1,246,263) | 28,469,050 | |
| 2035 | 19,670,000 | 10,047,138 | (1,175,388) | 28,541,750 | - | - | - | | - | - | - | 19,670,000 | 10,047,138 | (1,175,388) | 28,541,750 | |
| 2036 | 20,425,000 | 9,299,044 | (1,100,838) | 28,623,206 | - | - | - | | - | - | - | 20,425,000 | 9,299,044 | (1,100,838) | 28,623,206 | 60.35% |
| 2037 | 21,220,000 | 8,513,250 | (1,021,843) | 28,711,408 | - | - | - | | - | - | - | 21,220,000 | 8,513,250 | (1,021,843) | 28,711,408 | |
| 2038 | 21,670,000 | 7,695,138 | (939,111) | 28,426,026 | - | - | - | | - | - | - | 21,670,000 | 7,695,138 | (939,111) | 28,426,026 | |
| 2039 | 22,445,000 | 6,845,294 | (852,644) | 28,437,650 | - | - | - | | - | - | - | 22,445,000 | 6,845,294 | (852,644) | 28,437,650 | |
| 2040 | 23,330,000 | 5,893,894 | (762,440) | 28,461,454 | - | - | - | | - | - | - | 23,330,000 | 5,893,894 | (762,440) | 28,461,454 | |
| 2041 | 21,005,000 | 4,977,069 | (668,500) | 25,313,569 | - | - | - | | - | - | - | 21,005,000 | 4,977,069 | (668,500) | 25,313,569 | 81.75% |
| 2042 | 21,900,000 | 4,177,275 | (668,500) | 25,408,775 | - | - | - | | - | - | - | 21,900,000 | 4,177,275 | (668,500) | 25,408,775 | |
| 2043 | 16,400,000 | 3,342,450 | (668,500) | 19,073,950 | - | - | - | | - | - | - | 16,400,000 | 3,342,450 | (668,500) | 19,073,950 | |
| 2044 | 16,650,000 | 2,479,350 | (441,000) | 18,688,350 | - | - | - | | - | - | - | 16,650,000 | 2,479,350 | (441,000) | 18,688,350 | |
| 2045 | 16,950,000 | 1,627,900 | (220,500) | 18,357,400 | - | - | - | | - | - | - | 16,950,000 | 1,627,900 | (220,500) | 18,357,400 | |
| 2046 | 7,275,000 | 766,600 | - | 8,041,600 | - | - | - | | - | - | - | 7,275,000 | 766,600 | - | 8,041,600 | 97.20% |
| 2047 | 6,550,000 | 524,525 | - | 7,074,525 | - | - | - | | - | - | - | 6,550,000 | 524,525 | - | 7,074,525 | |
| 2048 | 3,050,000 | 303,175 | - | 3,353,175 | - | - | - | | - | - | - | 3,050,000 | 303,175 | - | 3,353,175 | |
| 2049 | 3,200,000 | 185,975 | - | 3,385,975 | - | - | - | | - | - | - | 3,200,000 | 185,975 | - | 3,385,975 | |
| 2050 | 1,575,000 | 63,000 | - | 1,638,000 | - | - | - | | - | - | - | 1,575,000 | 63,000 | - | 1,638,000 | 100.00% |
| | **$ 512,330,000** | **$ 350,418,932** | **$ (38,588,631)** | **$ 824,160,301** | **$ 13,425,000** | **$ 1,451,846** | **$ 14,876,846** | | **$ (13,165,000)** | **$ (2,693,768)** | **$ (15,858,768)** | **$ 512,590,000** | **$ 349,177,011** | **$ (38,588,631)** | **$ 823,178,380** | |

**NOTES:**

(1) The above figures do not include short-term notes outstanding, if any. For more information, see the notes to the Financial Statements in the FINANCIAL STATEMENTS included herein.

(2) The original federal subsidy of 35.0% on the Wastewater System Revenue Bonds, Series 2010 (Federally Taxable Build America Bonds) and the Wastewater System Revenue Bonds, Series 2010C (Federally Taxable Build America Bonds) has been reduced by 6.8% for the federal fiscal year ending September 30, 2016 and by 6.9% for the federal fiscal year ending September 30, 2017 as a result of the sequestration by the Budget Control Act of 2011. After October 1, 2017, the sequestration rate will be subject to change.

(3) Estimated Interest Rates. Estimated Average Coupon 2.39%.

# KNOXVILLE UTILITIES BOARD
# WASTEWATER DIVISION
## HISTORICAL DEBT SERVICE COVERAGES

The historical coverage for the actual debt service requirements and the projected maximum annual debt service requirements (FY 2018) of the Outstanding Bonds and the Series 2017A Bonds for fiscal years ended June 30, 2012 through June 30, 2016 is set forth below.

| | **2012** | **2013** | **2014** | **2015** | **2016** |
|---|---|---|---|---|---|
| Operating revenues | $ 70,502,494 | $ 74,579,313 | $ 75,041,645 | $ 79,206,028 | $ 83,645,509 |
| Operating expenses* | (24,920,362) | (27,822,708) | (29,652,128) | (30,889,188) | (31,511,199) |
| Net income before Depreciation & taxes | $ 45,582,133 | $ 46,756,605 | $ 45,389,517 | $ 48,316,840 | $ 52,134,310 |
| Other revenue (Net) | 561,662 | 372,644 | 291,711 | 301,292 | 461,544 |
| FICA & Medicare Tax Expense | (622,483) | (674,060) | (719,291) | (725,205) | (747,389) |
| Income available for debt service | $ 45,521,312 | $ 46,455,189 | $ 44,961,937 | $ 47,892,927 | $ 51,848,465 |
| Actual annual debt service requirements on outstanding bonds | $ 26,175,686 | $ 26,616,517 | $ 28,041,968 | $ 29,023,441 | $ 30,819,779 |
| Coverage (Times) | 1.74 x | 1.75 x | 1.60 x | 1.65 x | 1.68 x |
| Maximum projected annual debt ** service requirements (FY2018) on Outstanding Bonds and the Series 2017A Bonds | $ 31,711,431 | $ 31,711,431 | $ 31,711,431 | $ 31,711,431 | $ 31,711,431 |
| Coverage (Times) | 1.44 x | 1.46 x | 1.42 x | 1.51 x | 1.64 x |

* Excluding Provision for Depreciation and Taxes

** From Debt Service Requirements Chart.  Maximum debt excludes estimated BABS rebate.

# KNOXVILLE UTILITIES BOARD
# WASTEWATER DIVISION
## OPERATING REVENUE FROM WASTEWATER SALES

| Fiscal Year Ended June 30 | Revenue | |
|---|---|---|
| 2007 | $ | 52,206,322 |
| 2008 | $ | 60,697,299 |
| 2009 | $ | 62,399,578 |
| 2010 | $ | 61,250,002 |
| 2011 | $ | 65,774,599 |
| 2012 | $ | 70,502,494 |
| 2013 | $ | 74,579,313 |
| 2014 | $ | 75,041,645 |
| 2015 | $ | 79,206,028 |
| 2016 | $ | 83,645,509 |

# WASTEWATER DIVISION
# REPORT OF INDEPENDENT AUDITORS AND FINANCIAL STATEMENTS

Knoxville Utilities Board

# Wastewater Division

## Financial Statements and Supplemental Information
## June 30, 2016 and 2015

### KUB Board of Commissioners

Nikitia Thompson - Chair

Sara Hedstrom Pinnell - Vice Chair

Dr. Jerry W. Askew

Kathy Hamilton

Celeste Herbert

Eston Williams

John Worden

### Management

**Mintha Roach**
President and
Chief Executive Officer

**Bill Elmore**
Executive Vice President and
Chief Operating Officer

**Mark Walker**
Senior Vice President and
Chief Financial Officer

**Susan Edwards**
Senior Vice President and
Chief Administrative Officer

**Eddie Black**
Senior Vice President

**Mike Bolin**
Vice President

**Julie Childers**
Vice President

**Derwin Hagood**
Vice President

**Dawn Mosteit**
Vice President

**Paul Randolph**
Vice President

**Dennis Upton**
Vice President

# Knoxville Utilities Board Wastewater Division
## Index
## June 30, 2016 and 2015

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Knoxville, TN 37932

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# Report of Independent Auditors

Board of Commissioners
Wastewater Division of the Knoxville Utilities Board
Knoxville, Tennessee

We have audited the accompanying financial statements of the Wastewater Division (the Division) of the Knoxville Utilities Board, a component unit of the City of Knoxville, Tennessee, as of and for the years ended June 30, 2016 and 2015, and the related notes to the financial statements, which collectively comprise the Division's basic financial statements as listed in the index.

## Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

## Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Division's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Division's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

## Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Wastewater Division of the Knoxville Utilities Board as of June 30, 2016 and 2015, and the changes in financial position and cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

**Other Matters**

*Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 3 through 24 and the required supplementary information on pages 52 through 54 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

*Other Information*

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Division's basic financial statements. The supplemental information is presented for purposes of additional analysis and is not a required part of the basic financial statements. The supplemental information has not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we do not express an opinion or provide any assurance on it.

**Other Reporting Required by Government Auditing Standards**

In accordance with *Government Auditing Standards*, we have also issued our report dated October 27, 2016, on our consideration of the Division's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Division's internal control over financial reporting and compliance.

Coulter & Justus, P.C.

Knoxville, Tennessee
October 27, 2016

Knoxville Utilities Board (KUB), comprised of the Electric Division, Gas Division, Water Division, and Wastewater Division (Divisions), is reported as a component unit enterprise fund in the financial statements of the City of Knoxville. KUB's responsibility is to oversee the purchase, production, distribution, and processing of electricity, natural gas, water, and wastewater services. A seven-member Board of Commissioners (Board) governs KUB. The Board has all powers to construct, acquire, expand, and operate the Divisions. It has full control and complete jurisdiction over the management and operation of the Divisions. The Wastewater Division (Division) provides services to certain customers in Knox County and in two surrounding counties in East Tennessee. The Division's accounts are maintained in conformity with the Uniform System of Accounts of the National Association of Regulatory Utility Commissioners (NARUC) and the Governmental Accounting Standards Board (GASB), as applicable. The financial statements present only the Wastewater Division and do not purport to, and do not, present fairly the consolidated financial position of Knoxville Utilities Board at June 30, 2016 and 2015, and the changes in its financial position for the years then ended in conformity with accounting principles generally accepted in the United States of America.

The Division's discussion and analysis is designed to (a) assist the reader in focusing on significant financial issues, (b) provide an overview of the Division's financial activity, (c) identify major changes in the Division's financial position, and (d) identify any financial concerns.

The Division's Management Discussion and Analysis (MD&A) focuses on the fiscal year ending June 30, 2016 activities, resulting changes and current known facts, and should be read in conjunction with the Division's financial statements.

## Wastewater Division Highlights

### System Highlights

The wastewater service area covers 243 square miles and includes 70,265 wastewater customers. KUB maintains 1,317 miles of services mains, 75 pump stations, and 4 treatment plants to treat 13.9 billion gallons of wastewater on an annual basis. The average daily flow is 38.1 million gallons.

KUB has added approximately 737 wastewater system customers over the past three years representing annual growth of less than one percent.

The typical residential wastewater customer's average monthly wastewater bill was $53.50 as of June 30, 2016, representing an increase of $3 compared to June 30, 2015. The increase in the monthly bill reflects a rate increase effective October 2015.

KUB's treatment plants continue to meet high standards of operation. KUB's Kuwahee, Eastbridge, Loves Creek and Fourth Creek wastewater treatment plants were awarded Operational Excellence awards from the Tennessee Kentucky Water Environment Association for having one or less permit violations within the 2015 calendar year. The treatment plants additionally won awards at various levels based on performance from the National Association of Clean Water Agencies for peak performance. The Eastbridge wastewater treatment plant was awarded a Platinum award for continued outstanding compliance performance over multiple years. Kuwahee and Loves Creek wastewater treatment plants won Gold Awards for having no permit violations in 2015 and the Fourth Creek wastewater treatment plant was awarded Silver for having only one permit violation in 2015.

KUB continued to maintain certification with the National Biosolids Partnership following a rigorous review process and independent audit that was conducted in December 2015. (Biosolids are nutrient-rich organic matter produced by wastewater treatment that can be recycled as fertilizer).

## Century II Infrastructure Program

Century II is KUB's proactive long-range program to improve and maintain the electric, natural gas, water and wastewater systems for its customers. It includes the maintenance and asset replacement strategies for each system and establishes sustainable replacement cycles. Century II moves KUB into its second century of service by improving each system through sound planning, resource allocation, and continued, but accelerated, investment.

In 2013, the Board extended the funding approach for Century II to include the wastewater system, although the Wastewater Division had maintained a ten-year funding plan since the inception of the Federal Consent Decree (see below). The Board formally endorsed and adopted by resolution, a ten year funding plan for the Wastewater Division, which includes a combination of rate increases and debt issues to fully fund the wastewater system's Century II program.

In April 2014, KUB management provided the Board an updated assessment of the overall condition of each utility system, including a recommendation for annual rate increases for each division for the next three fiscal years.

In June 2014, the Board approved the proposed three annual rate increases for the Wastewater Division. The first and second rate increases went into effect in October 2014 and October 2015. The third rate increase will go into effect October 2016. The wastewater rate increases will each produce an additional $4.7 million of annual sales revenue.

In fiscal year 2016, KUB rehabilitated or replaced 28 miles of wastewater system main, exceeding the target level of 25 miles, while staying within the Division's total capital budget.

## Consent Decree

In February 2005, a Consent Decree was entered into federal court regarding the operation of KUB's wastewater system. Under the terms of the Consent Decree, the remediation of identified sanitary sewer overflows (SSOs) on KUB's wastewater system had to be completed by June 30, 2016. KUB completed all the requirements of the Consent Decree for the collection system two years in advance of the deadline.

The Consent Decree also required KUB to perform an evaluation of the wet weather performance and capacity of its wastewater treatment plants. In July 2007, KUB submitted a Composite Correction Plan (CCP) for its wastewater treatment plants to EPA for review. The development and filing of the CCP was a requirement of the federal order of February 2005. The CCP includes recommended improvements to KUB's Kuwahee and Fourth Creek treatment plants to address wet weather capacity issues noted in prior assessments. The EPA approved the CCP in January 2009 including a recommended schedule of plant improvements that extends beyond the expiration date of the original Consent Decree. An amendment to the Consent Decree incorporating and establishing this schedule was agreed to by all parties and was entered on June 23, 2009. The purpose of the Amendment is to allow KUB to complete a portion of work outlined in the CCP after the Consent Decree deadline of June 30, 2016. The CCP provides for a biologically enhanced high-rate clarification (the BEHRC) secondary treatment system to be installed at the Fourth Creek treatment plant by June 30, 2018 and at the Kuwahee treatment plant by June 30, 2021. The total cost of such improvements is estimated to be approximately $120 million.

KUB's funding plan for the Consent Decree includes long-term bonds and a series of rate increases phased in over the term of the order. Bond proceeds fund all types of wastewater capital projects, the majority of which are related to the Consent Decree. As of June 30, 2016, the Wastewater Division had issued $485 million in bonds to fund system capital improvements since the inception of the Consent Decree. The Board approved two 50 percent rate increases, which went into effect in April 2005 and

January 2007. The Board also approved an 8 percent rate increase, which was effective in September 2008, two 12 percent rate increases, which were effective in April 2011 and October 2012, and three 6 percent rate increases effective October 2014, October 2015 and October 2016. KUB anticipates additional bond issues and rate increases over the next decade to help fund wastewater capital improvements.

KUB successfully completed the first cycle of Maintenance Operation Management (MOM) requirements one year before the deadline by inspecting 99.5% of manholes and gravity mains, smoke testing 99.9% of gravity mains, performing required inspections of pump stations and the related force mains, and completing all Corrective Action Plan/Engineering Report (CAP/ER) projects. KUB initiated the second MOM cycle that continues to focus on the prevention of SSOs. As part of the Century II initiative, formally known as the PACE10 program, KUB has installed storage tanks providing 34 million gallons of wastewater storage to control wet weather overflows and rehabilitated or replaced approximately 334.9 miles of collection system pipe. KUB also continues to maintain a proactive operations and maintenance plan for the wastewater collection system including inspection, grease control, and private lateral enforcement. The result of the Pace10/Century II initiative has been an 82 percent reduction in SSOs.

As of June 30, 2016, the Wastewater Division had completed its twelfth full year under the Consent Decree, spending $529.5 million on capital investments to meet Consent Decree requirements. During fiscal year 2016, the Wastewater Division incurred $37.3 million in total expenditures related to Consent Decree requirements, including $3.3 million for operating costs and $34 million in capital improvements which included the rehabilitation or replacement of 28 miles of wastewater main. During the fiscal year, $26.5 million was spent on sewer mini-basin rehabilitation and replacement. Trunk line rehabilitation and replacement accounted for $2 million of capital expenditures, while pump station improvements accounted for $4.6 million.

## Financial Highlights

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

The Division's net position during the year increased $9.5 million compared to a $7.8 million increase last fiscal year. A restatement to the fiscal year 2014's net position based on a change in method of accounting for pension expense reduced the total net position by $0.2 million during fiscal year 2015. This change resulted in a net increase of $7.6 million or 3 percent in the Division's net position in fiscal year 2015.

Operating revenue increased $4.4 million or 5.6 percent, the result of additional revenue generated during the fiscal year from the rate increase effective October 2015, along with a 1.1 percent increase in wastewater sales volumes.

Operating expenses increased $2.1 million or 4 percent. Operating and maintenance (O&M) expenditures increased $0.6 million or 2 percent. Depreciation expense rose $1.2 million or 7.1 percent. Taxes and tax equivalents increased $0.2 million or 5.5 percent.

Interest income was $0.2 million higher than the prior fiscal year. Interest expense increased $0.8 million or 4.2 percent, reflecting additional interest expense on revenue bonds sold in fiscal year 2015. Other income (net) was $0.3 million lower.

Capital contributions increased $0.3 million, the result of an increase in donated assets from developers compared to the previous fiscal year.

Total plant assets (net) increased $22.9 million or 3.4 percent since the end of last fiscal year.

Long-term debt represented 64.5 percent of the Division's capital structure as of June 30, 2016, as compared to 65.8 percent last year. The decrease is the result of scheduled repayment of debt during the fiscal year. Capital structure equals long-term debt (which includes the current and long-term portion of revenue bonds and notes) plus net position.

The Division's bond covenants require a debt service coverage ratio of at least 1.2 times the maximum principal and interest payments over the life of the Division's outstanding bonds. Current year debt coverage for the fiscal year was 1.85. Maximum debt service coverage was 1.68.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

The Division's net position during the year increased $7.8 million compared to a $5.7 million increase last fiscal year. A restatement to the prior fiscal year's net position based on a change in method of accounting for pension expense reduced the total net position by $0.2 million during fiscal year 2015. This change resulted in a net increase of $7.6 million or 3 percent in the Division's net position.

Operating revenue increased $4.2 million or 5.5 percent, the result of additional revenue generated during the fiscal year from the rate increase effective October 2014, along with a 0.9 percent increase in wastewater sales volumes.

Operating expenses increased $2.5 million or 5 percent. Operating and maintenance (O&M) expenditures increased $1.2 million or 4.2 percent. Depreciation expense rose $1 million or 6.5 percent. Taxes and tax equivalents increased $0.2 million or 5.1 percent.

Interest income was consistent with the prior fiscal year. Interest expense increased $0.1 million or less than one percent reflecting additional interest expense on $60 million in revenue bonds sold in fiscal year 2015. Other income (net) was $0.4 million higher.

Capital contributions increased $0.1 million, the result of an increase in donated assets from developers compared to the previous fiscal year.

Total plant assets (net) increased $21.9 million or 3.4 percent since the end of last fiscal year.

KUB sold two series of wastewater system revenue bonds during fiscal year 2015 for the purpose of funding wastewater system capital improvements totaling $60 million. The $30 million bond issue in April 2015 was accelerated to take advantage of the low interest rate environment which impacted the Division's debt rate and debt service coverage levels for fiscal year 2015. Long-term debt represented 65.8 percent of the Division's capital structure as of June 30, 2015, as compared to 63.9 percent last year. The increase is the net result of the issuance of revenue bonds in August 2014 and April 2015 offset the scheduled repayment of debt during the fiscal year. Capital structure equals long-term debt (which includes the current and long-term portion of revenue bonds and notes) plus net position.

The Division's bond covenants require a debt service coverage ratio of at least 1.2 times the maximum principal and interest payments over the life of the Division's outstanding bonds. Current year debt coverage for the fiscal year was 1.65. Maximum debt service coverage was 1.55.

## Knoxville Utilities Board Wastewater Division - Financial Statements

The Division's financial performance is reported under three basic financial statements: the Statement of Net Position; the Statement of Revenues, Expenses and Changes in Net Position; and the Statement of Cash Flows.

### Statement of Net Position

The Division reports its assets, deferred outflows of resources, liabilities, deferred inflows of resources, and net position in the Statement of Net Position. Assets are classified as current, restricted, wastewater plant in service, or other assets.

Liabilities are classified as current, other, or long-term debt. Net position is classified as net investment in capital assets; restricted; or unrestricted. Net position tells the user what the Division has done with its accumulated earnings, not just the balance.

Net investment in capital assets reflects the book value of all capital assets less the outstanding balances of debt used to acquire, construct, or improve those assets.

Restricted net position are assets that have been limited to specific uses by the Division's bond covenants or through resolutions passed by the KUB Board.

Unrestricted net position is a residual classification; the amount remaining after reporting net position is either invested in capital or restricted is reported there.

### Statement of Revenues, Expenses and Changes in Net Position

The Division reports its revenues and expenses (both operating and non-operating) on the Statement of Revenues, Expenses and Changes in Net Position. In addition, any capital contributions or assets donated by developers are reported on this statement.

Total revenue less total expense equals the change in net position for the reporting period. Net position at the beginning of the period is increased or decreased, as applicable, by the change in net position for the reporting period.

The change in net position for the reporting period is added to the net position segment of the Statement of Net Position.

### Statement of Cash Flows

The Division reports cash flows from operating activities, capital and related financing activities, and investing activities on the Statement of Cash Flows. This statement tells the user the Division's sources and uses of cash during the reporting period.

The statement indicates the Division's beginning cash balance and ending cash balance and how it was either increased or decreased during the reporting period.

The statement also reconciles cash flow to operating income as it appears on the Statement of Revenues, Expenses and Changes in Net Position.

## Condensed Financial Statements

### Statement of Net Position

The following table reflects the condensed Statement of Net Position for the Wastewater Division compared to the prior year and the year preceding the prior year.

**Statements of Net Position**
**As of June 30**

| *(in thousands of dollars)* | **2016** | **2015** | **2014** |
|---|---|---|---|
| Current, restricted and other assets | $ 80,075 | $ 104,099 | $ 66,802 |
| Capital assets, net | 687,056 | 664,178 | 642,302 |
| Deferred outflows of resources | 19,413 | 18,593 | 10,064 |
| Total assets and deferred outflows of resources | 786,544 | 786,870 | 719,168 |
| Current and other liabilities | 22,630 | 19,981 | 19,979 |
| Long-term debt outstanding | 492,466 | 503,955 | 445,190 |
| Deferred inflows of resources | 333 | 1,339 | - |
| Total liabilities and deferred inflows of resources | 515,429 | 525,275 | 465,169 |
| Net position | | | |
| Net investment in capital assets | 205,784 | 172,144 | 201,947 |
| Restricted | 2,737 | 2,624 | 2,263 |
| Unrestricted | 62,594 | 86,827 | 49,789 |
| Total net position | $ 271,115 | $ 261,595 | $ 253,999 |

### Normal Impacts on Statement of Net Position

The following is a description of activities which will normally impact the comparability of the Statement of Net Position presentation.

- Change in net position (from Statement of Revenues, Expenses and Changes in Net Position): impacts (increase/decrease) current and other assets and/or capital assets and unrestricted net position.

- Issuing debt for capital: increases deferred outflows of resources and long-term debt.

- Spending debt proceeds on new capital: reduces current assets and increases capital assets.

- Spending of non-debt related current assets on new capital: (a) reduces current assets and increases capital assets and (b) reduces unrestricted net position and increases net investment in capital assets.

- Principal payment on debt: (a) reduces current and other assets and reduces long-term debt and (b) reduces unrestricted net position and increases net investment in capital assets.

- Reduction of capital assets through depreciation: reduces capital assets and net investment in capital assets.

## Impacts and Analysis

## Current, Restricted and Other Assets

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Current, restricted and other assets decreased $24 million or 23.1 percent, reflecting the utilization of $15.6 million in bond proceeds and a $9.1 million decrease in general fund cash for the primary purpose of funding wastewater capital improvements. Operating contingency reserves increased $1.1 million and accounts receivable increased $0.3 million.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Current, restricted and other assets increased $37.3 million or 55.8 percent, reflecting a $17.4 million increase in the general fund balance and $15.6 million in unused bond proceeds. Operating contingency reserves increased $2.4 million and accounts receivable increased $0.6 million.

## Capital Assets

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Capital assets increased $22.9 million or 3.4 percent, the result of capital expenditures, net of depreciation. Major capital expenditures during the year included $32.6 million for major system improvements related to Century II (previously reported as PACE 10 expenditures), and $1.8 million for upgrades to various information systems, and $1.3 million for the replacement and relocation of wastewater system assets to accommodate Tennessee Department of Transportation (TDOT) highway improvement projects.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Capital assets increased $21.9 million or 3.4 percent, the result of capital expenditures, net of depreciation. Major capital expenditures during the year included $25.3 million for major system improvements related to Century II (previously reported as PACE 10 expenditures), $7 million for general system improvements and $1.8 million for information system upgrades.

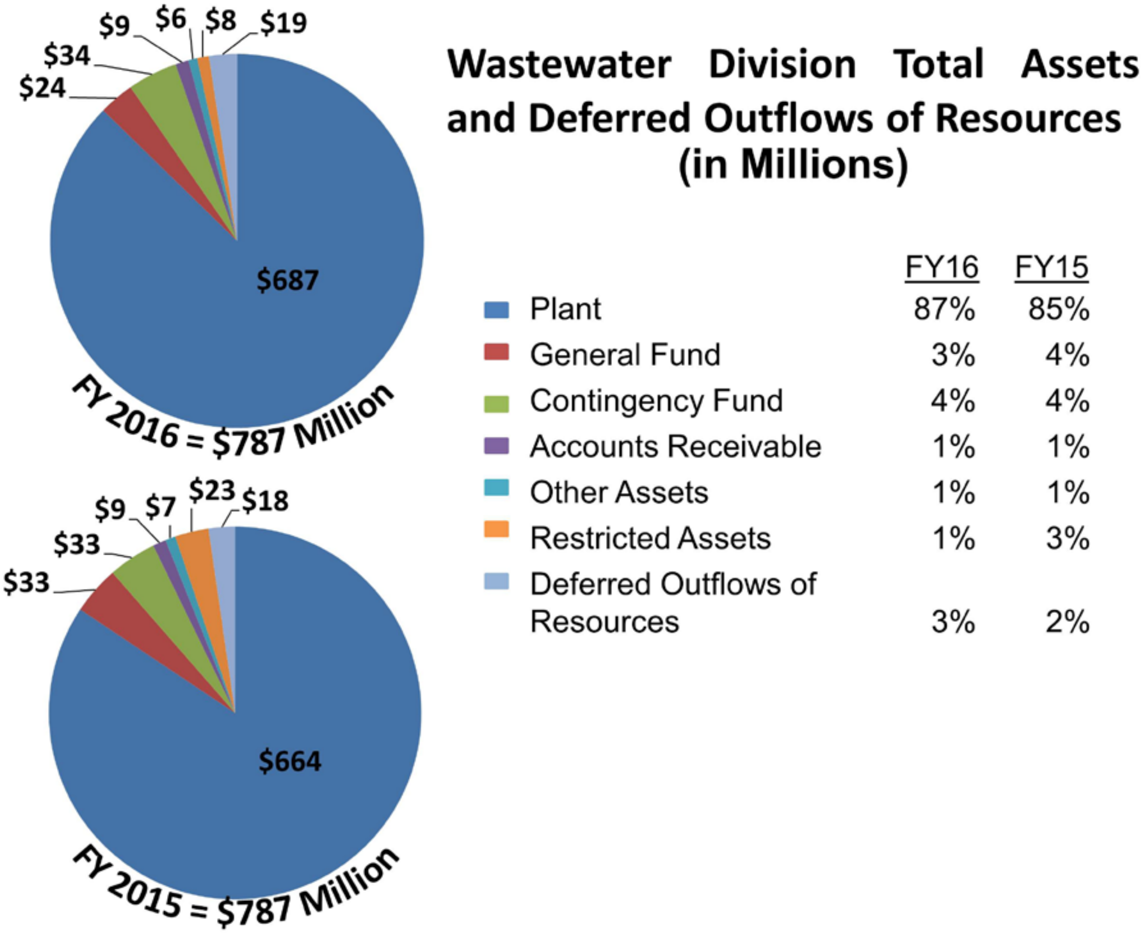
## Deferred Outflows of Resources

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Deferred outflows increased $0.8 million compared to the prior year, reflecting a $1.6 million increase in pension outflow and a $0.8 million decrease in unamortized bond refunding costs.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Deferred outflows increased $8.5 million compared to the prior year, reflecting $7.9 million in unamortized bond refunding costs from fiscal year 2015 bond refinancing.



**Wastewater Division Total Assets and Deferred Outflows of Resources (in Millions)**

| | FY16 | FY15 |
|---|---|---|
| 🟦 Plant | 87% | 85% |
| 🟥 General Fund | 3% | 4% |
| 🟩 Contingency Fund | 4% | 4% |
| 🟪 Accounts Receivable | 1% | 1% |
| 🟦 Other Assets | 1% | 1% |
| 🟧 Restricted Assets | 1% | 3% |
| 🟦 Deferred Outflows of Resources | 3% | 2% |

## Current and Other Liabilities

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Current and other liabilities were $2.6 million more than the prior fiscal year. This increase was primarily due to a $1.4 million increase in accounts payable and an actuarially determined net pension obligation of $1.1 million recognized in fiscal year 2016.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Current and other liabilities were consistent with the prior fiscal year.

## Long-Term Debt

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

The Division's outstanding long-term debt decreased $11.5 million or 2.3 percent primarily due to $10.9 million of long-term bond debt that shifted to current liabilities as payable within the next year.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

The Division's outstanding long-term debt increased $58.8 million or 13.2 percent. The Division issued $30 million in revenue bonds both in August 2014 and in April 2015. The increase was partially offset by the scheduled repayment of bond debt.

## Deferred Inflows of Resources

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Deferred inflows of resources were $1 million lower than the prior fiscal year due to differences in pension inflows.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Deferred inflows of resources were $1.3 million higher than the prior fiscal year due to the addition of pension inflow.

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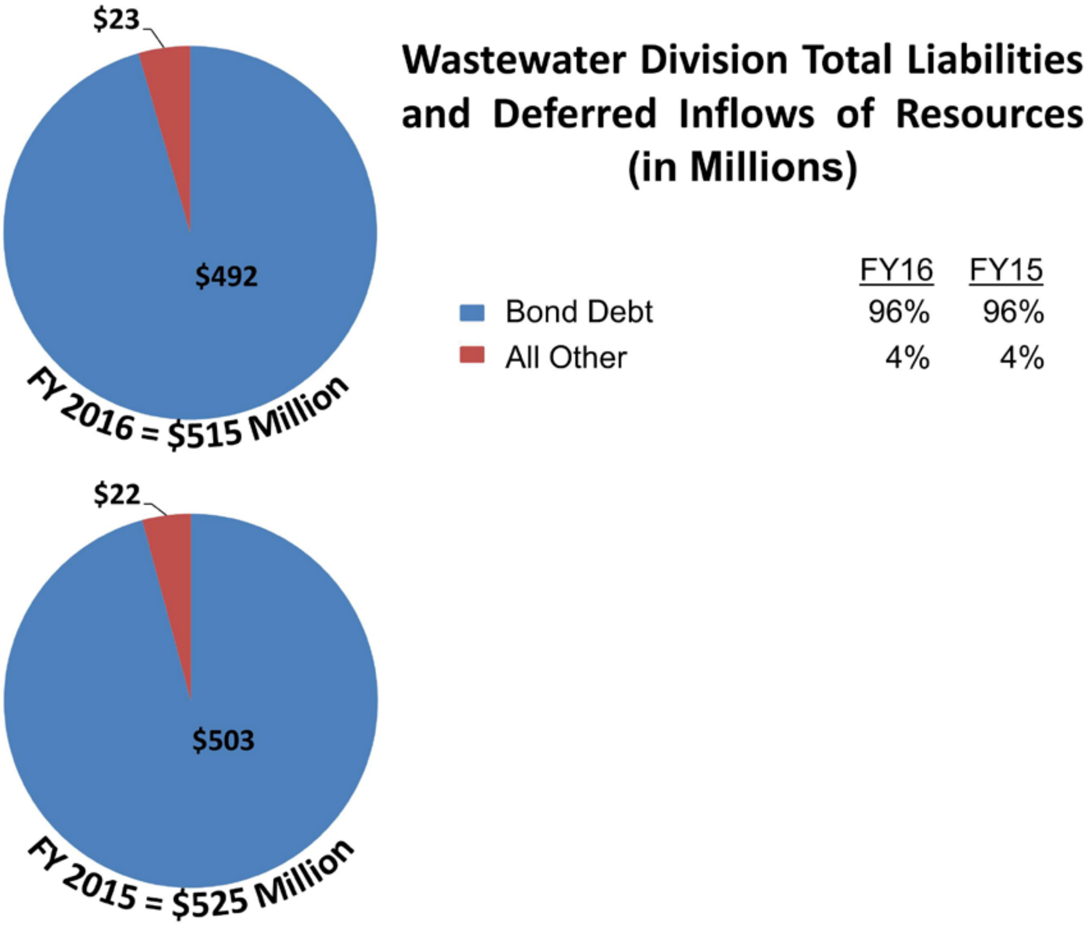

## Net Position

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Net investment in capital assets increased $33.6 million or 19.5 percent. The increase was the result of $22.9 million in net plant additions and a decrease in current and long term debt of $11 million, reflecting the scheduled repayment of bonds. Unrestricted assets decreased $24.2 million primarily due to the $24 million decrease in current and other assets compared to the prior year. Restricted net position was $0.1 million higher than the previous fiscal year, based on increases in debt service.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Net investment in capital assets decreased $29.8 million or 14.8 percent. The increase was the result of $21.9 million in net plant additions and an increase in current and long term debt of $53.2 million. Unrestricted assets increased $37 million primarily due to the $37.3 million increase in current and other assets compared to the prior year. Restricted net position was $0.4 million higher than the previous fiscal year, based on increases in debt service.

## Statement of Revenues, Expenses and Changes in Net Position

The following table reflects the condensed Statement of Revenues, Expenses and Changes in Net Position for the Wastewater Division compared to the prior year and the year preceding the prior year.

### Statements of Revenues, Expenses and Changes in Net Position
### For the Years Ended June 30

| *(in thousands of dollars)* | 2016 | 2015 | 2014 |
|---|---|---|---|
| Operating revenues | $ 83,646 | $ 79,206 | $ 75,042 |
| Operating expenses | | | |
| Treatment | 12,516 | 11,597 | 10,769 |
| Collection | 7,462 | 8,609 | 7,795 |
| Customer service | 2,962 | 2,837 | 2,605 |
| Administrative and general | 8,572 | 7,846 | 8,484 |
| Depreciation | 18,343 | 17,131 | 16,086 |
| Taxes and tax equivalents | 4,537 | 4,301 | 4,092 |
| Total operating expenses | 54,392 | 52,321 | 49,831 |
| Operating income | 29,254 | 26,885 | 25,211 |
| Interest income | 462 | 301 | 292 |
| Interest expense | (20,169) | (19,355) | (19,264) |
| Other income/(expense) | (717) | (433) | (837) |
| Change in net position before capital contributions | 8,830 | 7,398 | 5,402 |
| Capital contributions | 690 | 358 | 272 |
| Change in net position | $ 9,520 | $ 7,756 | $ 5,674 |

## Normal Impacts on Statement of Revenues, Expenses and Changes in Net Position

The following is a description of activities which will normally impact the comparability of the Statement of Revenues, Expenses and Changes in Net Position presentation.

- Operating revenue is primarily determined by the amount of water usage billed during the fiscal year. KUB has certain commercial and industrial customers whose wastewater usage is metered separately from their water usage. Any change (increase/decrease) in wastewater rates would also cause a change in operating revenue.

- Operating expenses (treatment, collection system expense, customer service, administrative and general) are normally impacted by changes in areas including, but not limited to, labor cost (staffing, wage rates), active employee and retiree health insurance costs, chemicals, and wastewater system maintenance.

- Depreciation expense is impacted by plant additions and retirements during the fiscal year.

- Taxes and tax equivalents are impacted by plant additions/retirements and changes in property tax rates.

- Interest income is impacted by the level of interest rates and investments.

- Interest expense is impacted by the level of outstanding debt and interest rates on the outstanding debt.

- Other income/(expense) is impacted by miscellaneous non-operating revenues and expenses.

- Capital contributions are impacted by a donation of facilities/infrastructure to KUB by developers and governmental agencies. The contributions are recognized as revenue and recorded as plant in service based on the fair market value of the asset(s).

## Impacts and Analysis

## Change in Net Position

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

The Division's net position during the year increased $9.5 million compared to a $7.8 million increase last fiscal year. A restatement to fiscal year 2014's net position based on a change in method of accounting for pension expense reduced the total net position by $0.2 million during fiscal year 2015.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

The Division's net position during the year increased $7.8 million compared to a $5.7 million increase last fiscal year. A restatement to the prior fiscal year's net position based on a change in method of accounting for pension expense reduced the total net position by $0.2 million during fiscal year 2015. This change resulted in a net increase of $7.6 million or 3 percent in the Division's net position.

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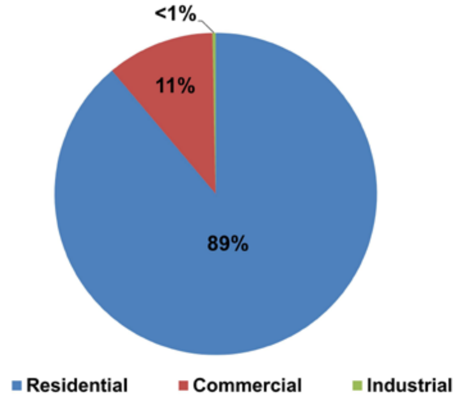
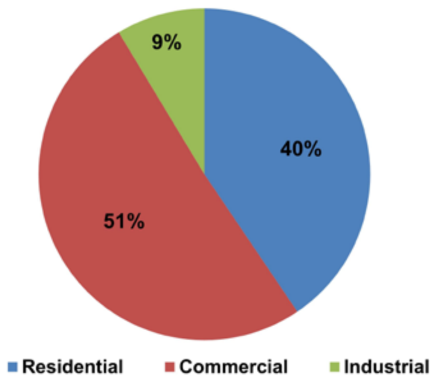
## Margin from Sales

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Operating revenue increased $4.4 million or 5.6 percent for the fiscal year ending June 30, 2016, the result of additional revenue generated during the fiscal year from the October 2015 rate increase as well as a 1.1 percent increase in wastewater sales volumes. Rebates on bond interest payments from the federal government for federally taxable Build America Bonds (BABs) are reported as revenue in accordance with GASB. KUB recognized $1.8 million in revenue for BABs rebates in fiscal year 2016.



**FY 2016 Total Wastewater Customers = 70,265**



**FY 2016 Wastewater Sales = 6.5 Billion Gallons**

Residential customers accounted for 89 percent of wastewater customers and 40 percent of total billed sales volumes for the year. Commercial customers accounted for the largest portion of total sales volumes for the year with 51 percent.

KUB's ten largest wastewater customers accounted for 11.1 percent of KUB's billed wastewater volumes. Those ten customers represent five industrial and five commercial customers, including four governmental customers.

KUB has added 737 wastewater customers over the past three years, representing annual growth of less than one percent.

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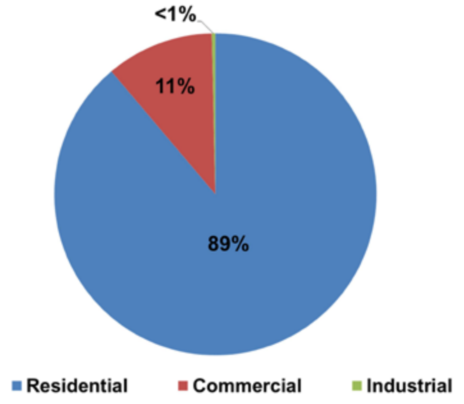
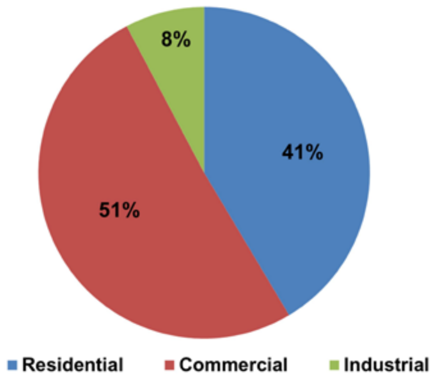
### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Operating revenue increased $4.2 million or 5.5 percent for the fiscal year ending June 30, 2015, the result of additional revenue generated during the fiscal year from the rate increase effective October 2014 and a 0.9 percent increase in wastewater sales volumes. Rebates on bond interest payments from the federal government for federally taxable Build America Bonds (BABs) are reported as revenue in accordance with GASB. KUB recognized $2.7 million in revenue for BABs rebates in fiscal year 2015.

**FY 2015 Total Wastewater Customers = 69,847**



**FY 2015 Wastewater Sales = 6.5 Billion Gallons**



Residential customers accounted for 89 percent of wastewater customers and 41 percent of total billed sales for the year. Commercial customers accounted for the largest portion of total sales for the year.

KUB’s ten largest wastewater customers accounted for 9.1 percent of KUB’s billed wastewater volumes. Those ten customers represent five industrial and five commercial customers, including four governmental customers.

The Division has added 664 customers over the past three years, representing annual growth of less than one percent. Billed wastewater volumes have slowed in recent years, reflecting declining water usage due to more efficient appliances and conservation efforts.

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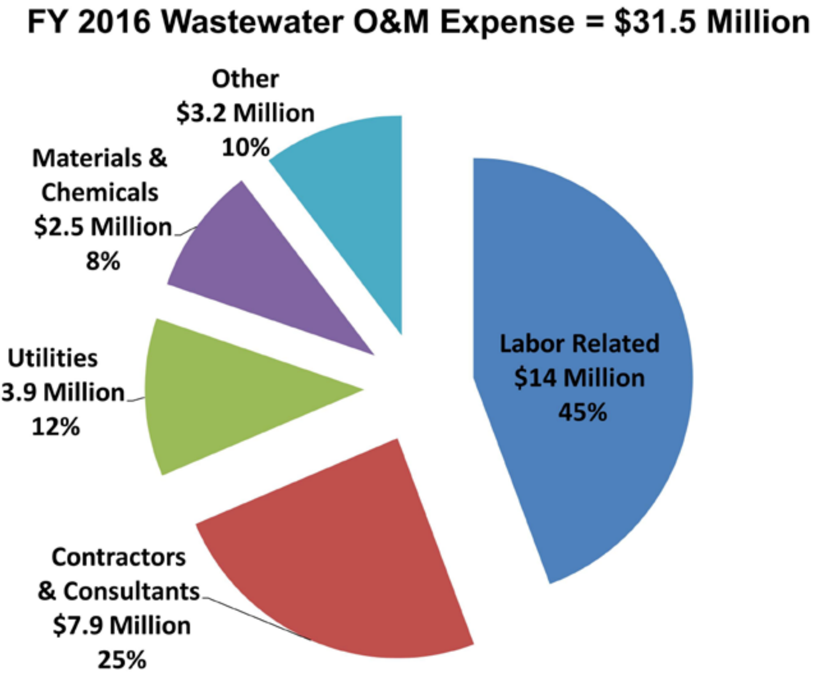
## Operating Expenses

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Operating expenses increased $2.1 million or 4 percent compared to fiscal year 2015. Operating expenses include operations and maintenance (O&M) expense, depreciation, and taxes/tax equivalents. O&M expenses can be further classified as treatment, collection, customer service and administrative and general.

- Treatment expenses were up $0.9 million, primarily due to higher outside contractor expenses.
- Collection system expenses decreased $1.1 million, reflecting lower outside contractor expenses for Century II initiatives.
- Customer service expenses increased $0.1 million.
- Administrative and general expenses increased $0.7 million, due primarily to an increase in pension expense.

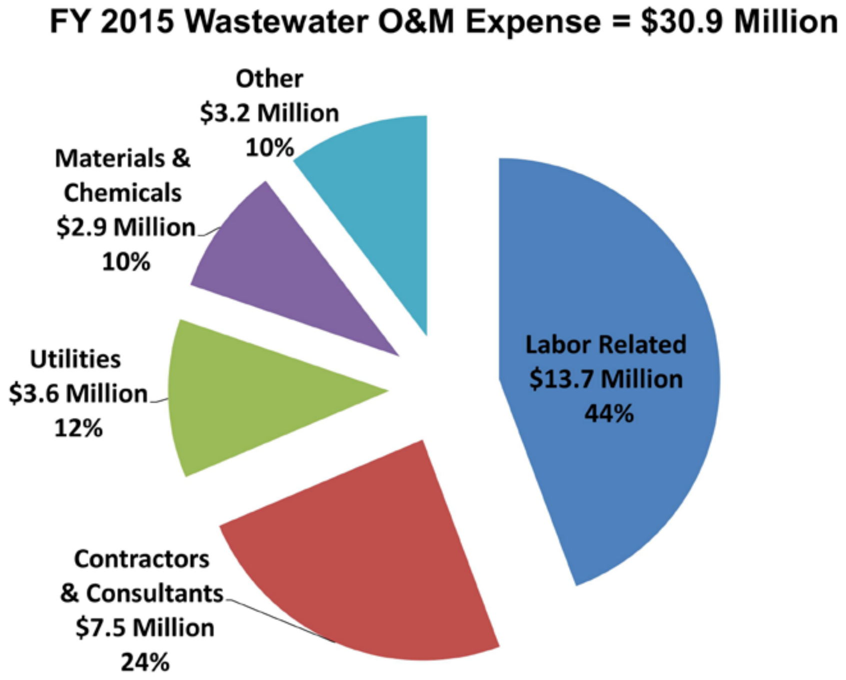


- Depreciation expense increased $1.2 million or 7.1 percent, the result of a full year of depreciation on $16.2 million of wastewater system assets placed in service during fiscal year 2015 and a partial year of depreciation of $53.6 million of wastewater system assets placed in service during fiscal year 2016. $12.1 million of wastewater system assets were retired during the fiscal year.
- Taxes and tax equivalents increased $0.2 million compared to the prior fiscal year, due to increased plant in service levels.

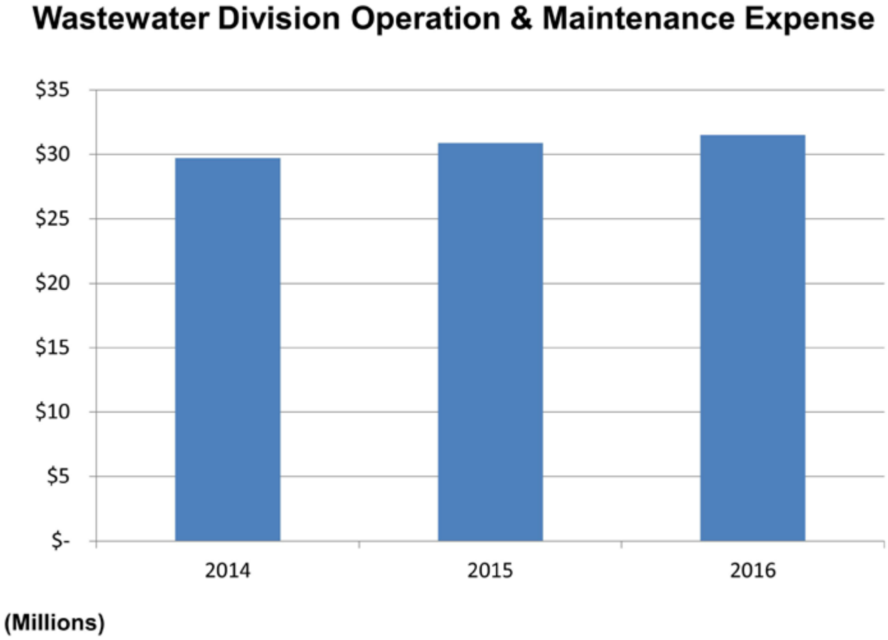
### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Operating expenses increased $2.5 million or 5 percent compared to fiscal year 2014. Operating expenses include operations and maintenance (O&M) expense, depreciation, and taxes/tax equivalents. O&M expenses can be further classified as treatment, collection, customer service and administrative and general.

- Treatment expenses were up $0.8 million, primarily due to higher consulting and contracting expenses.
- Collection system expenses increased $0.8 million, reflecting higher labor related expenses, outside contractor expenses for lift station maintenance and repairs, and outside consultant expenses for blockage abatement.
- Customer service expenses increased $0.2 million, reflecting the Division's share of expenses for software licenses.
- Administrative and general expenses decreased $0.6 million, due to a decrease in pension expense.



- Depreciation expense increased $1 million or 6.5 percent, the result of a full year of depreciation on $72.3 million of wastewater system assets placed in service during fiscal year 2014, and a partial year of depreciation on $16.2 million placed in service during fiscal year 2015. $3.4 million of wastewater system assets were retired during the fiscal year.
- Taxes and tax equivalents increased $0.2 million. The City of Knoxville's property tax rate increased this year and higher plant in service levels contributed to the growth in tax equivalent payments.



## Other Income and Expense

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Interest income was $0.2 million higher than the prior fiscal year.

Interest expense increased $0.8 million or 4.2 percent, the net effect of interest expense associated with bonds issued in fiscal year 2015 offset by debt interest savings from refinancing outstanding bonds at lower interest rates.

Other income (net) was $0.3 million lower, primarily due to a loss on disposition of wastewater system assets.

Capital contributions increased $0.3 million compared to last fiscal year as a result of additional assets received from developers and other governmental entities.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Interest income was consistent with the prior fiscal year.

Interest expense increased $0.1 million or less than one percent, the net effect of additional interest expense associated with $60 million in new bonds offset by debt interest savings from bond refinancing.

Other income (net) was $0.4 million lower primarily, due to a prior year loss on disposition of wastewater system assets.

Capital contributions increased $0.1 million compared to last fiscal year as a result of additional assets received from developers and other governmental entities.

## Capital Assets

### Capital Assets
### As of June 30
### (Net of Depreciation)

*(in thousands of dollars)*

| | 2016 | 2015 | 2014 |
|---|---|---|---|
| **Pumping & Treatment Plant** | $ 144,383 | $ 135,248 | $ 136,055 |
| **Collection Plant** | | | |
| Mains and Metering | 416,102 | 390,454 | 389,515 |
| Other Accounts | 70,145 | 71,708 | 72,884 |
| **Total Collection Plant** | 486,247 | 462,162 | 462,399 |
| **Total General Plant** | 8,480 | 8,101 | 8,070 |
| **Total Wastewater Plant** | $ 639,110 | $ 605,511 | $ 606,524 |
| Work In Progress | 47,946 | 58,667 | 35,778 |
| **Total Net Plant** | $ 687,056 | $ 664,178 | $ 642,302 |

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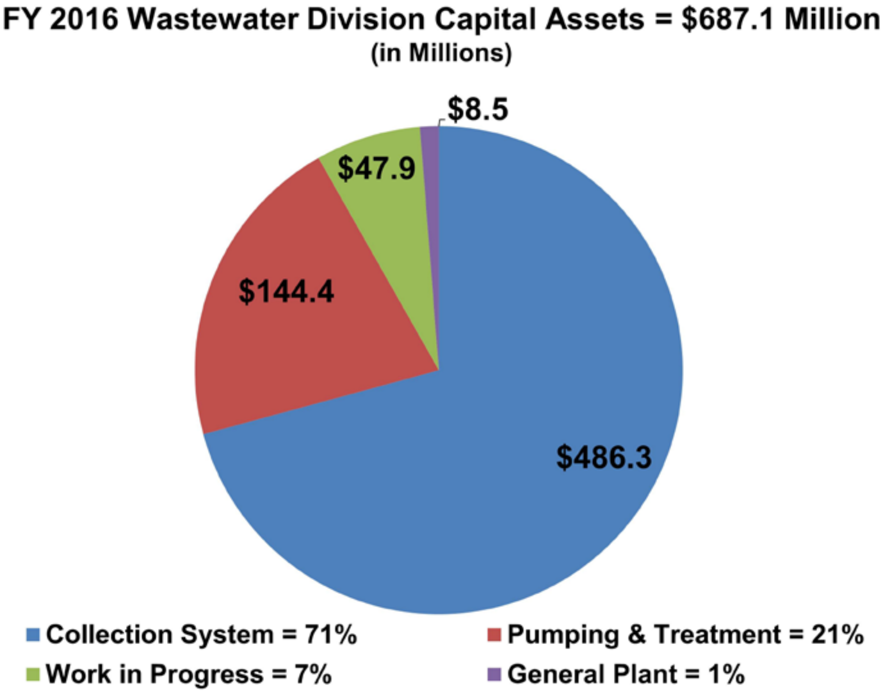
### *Fiscal Year 2016 Compared to Fiscal Year 2015*

As of June 30, 2016, the Division had $687.1 million invested in a variety of capital assets, as reflected in the schedule of capital assets, which represents a net increase (including additions, retirements, and depreciation) of $22.9 million or 3.4 percent over the end of the last fiscal year.



Major capital asset expenditures during the year were as follows:

- $32.6 million related to Century II projects
    - $15.8 million for sewer mini-basin rehabilitation and replacement
    - $7.7 million for sewer trunk line rehabilitation and replacement
    - $5.3 million for pump station design and construction
    - $3.8 million for wastewater treatment plant upgrades
- $1.8 million for upgrades to various information systems
- $1.3 million for replacement and relocation of wastewater system assets to accommodate TDOT highway improvement projects

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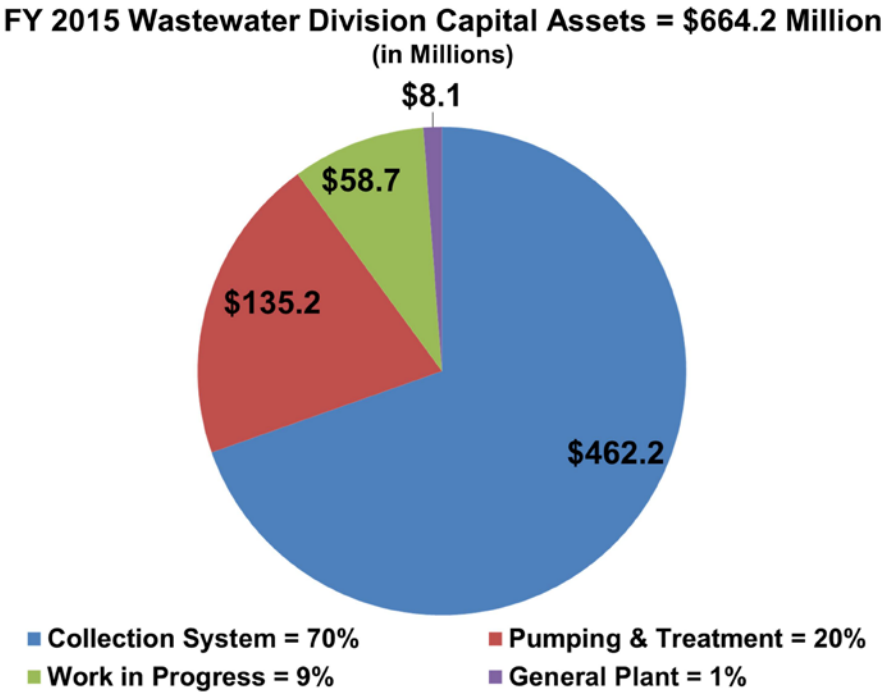
### *Fiscal Year 2015 Compared to Fiscal Year 2014*

As of June 30, 2015, the Division had $664.2 million invested in a variety of capital assets, as reflected in the schedule of capital assets, which represents a net increase (including additions, retirements, and depreciation) of $21.9 million or 3.4 percent over the end of the last fiscal year.



Major capital asset expenditures during the year were as follows:

- $25.3 million related to Century II projects
  - $20.4 million for sewer mini-basin rehabilitation and replacement
  - $2.6 million for pump station design and construction
  - $1.3 million for wastewater treatment plant upgrades
  - $1 million for sewer trunk line rehabilitation and replacement
- $7 million for system improvements
- $1.8 million for information system upgrades

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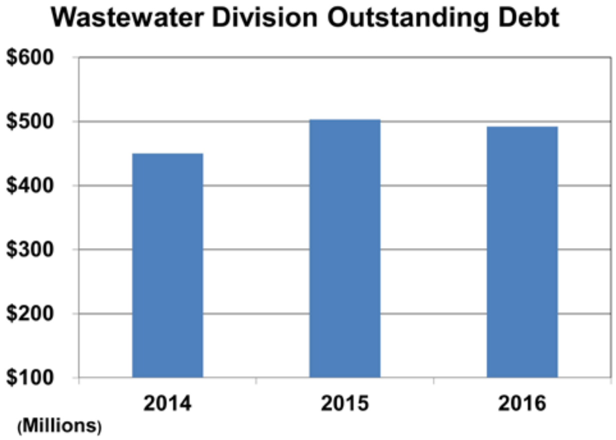
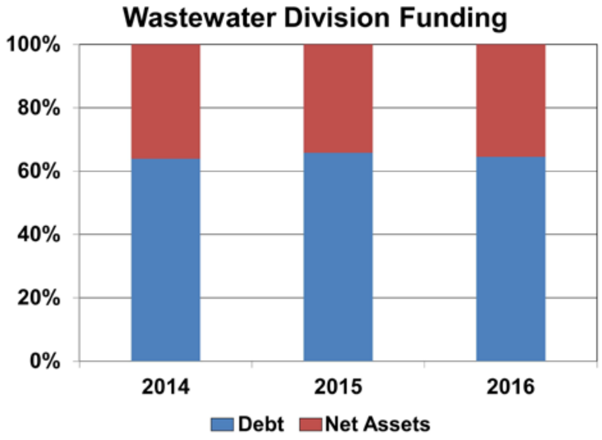
## Debt Administration

As of June 30, 2016, the Wastewater Division had $492.3 million in outstanding wastewater system bonds. The Division's outstanding debt rose in fiscal year 2015 to $503.3 million due to $60 million in new bonds sold during the fiscal year. As part of the Century II Infrastructure Program, as well as PACE10 in previous years, bond proceeds were used to fund capital improvements for the wastewater system. The bonds are secured solely by revenues of the Wastewater Division. Debt as a percentage of the Division's capital structure was 64.5 percent in 2016, 65.8 percent in 2015 and 63.9 percent at the end of fiscal year 2014. KUB's Debt Management Policy limits the Division's debt ratio to 70 percent or less.

### Outstanding Debt
### As of June 30

| *(in thousands of dollars)* | **2016** | **2015** | **2014** |
|---|---|---|---|
| Revenue bonds | $ 492,330 | $ 503,260 | $ 450,050 |
| Total outstanding debt | $ 492,330 | $ 503,260 | $ 450,050 |





The Division will pay $129.9 million in principal payments over the next ten years, representing 26.4 percent of the outstanding bonds. KUB's Debt Management Policy requires a minimum of 20 percent of wastewater debt principal be repaid over the next ten years.

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

As of June 30, 2016, the Division had $492.3 million in outstanding debt (including the current portion of revenue bonds), representing a decrease of $11 million or 2.2 percent. The decrease is attributable to the scheduled repayments of bond debt. The Division's weighted average cost of debt as of June 30, 2016 was 4.03 percent.

The Division's outstanding debt is rated by Standard & Poor's and Moody's Investors Service. As of June 30, 2016, the Division's revenue bonds were rated AA+ by Standard & Poor's and Aa2 by Moody's Investors Service.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

As of June 30, 2015, the Division had $503.3 million in outstanding debt (including the current portion of revenue bonds), compared to $450.1 million last year, representing an increase of $53.2 million or 11.8 percent. The Division's weighted average cost of debt as of June 30, 2015 was 4.03 percent.

The increase is attributable to the issuance of revenue bonds during the fiscal year of $30 million in August 2014 and $30 million in April 2015. The increase was partially offset by scheduled repayments of bond debt.

In April 2015, KUB sold $129.8 million of revenue refunding bonds. The refunding of certain bonds at lower interest rates will provide debt service savings of $13.4 million over the life of the bonds.

The Division's outstanding debt is rated by Standard & Poor's and Moody's Investors Service. As of June 30, 2015, the Division's revenue bonds were rated AA+ by Standard & Poor's and Aa2 by Moody's Investors Service.

## Impacts on Future Financial Position

KUB anticipates adding 250 wastewater customers in fiscal year 2017.

In June 2014, the KUB Board adopted three years of rate increases for all four Divisions to help fund the ongoing Century II infrastructure programs for each system. The first and second rate increases were effective October 2014 and October 2015. The remaining wastewater rate increase will be effective October 2016. The wastewater rate increases provide additional annual revenue of $4.7 million.

KUB sold $20 million in wastewater system revenue bonds in July 2016 for the purpose of funding wastewater system capital improvements. The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.72 percent.

KUB long-term debt includes $94.5 million of Wastewater Division 2010 Build America Bonds (BABs). The BABs were sold on a taxable basis with the United States Treasury providing a rebate to KUB for a percentage of the interest cost. The interest rebates were subject to federal sequestration during the fiscal year and were reduced by 6.8 percent. Any future actions by Congress may also affect the anticipated rebates for future fiscal years.

GASB Statement No. 82, *Pension Issues – An amendment of GASB Statements No. 67, No. 68 and No. 73* is effective for fiscal years beginning after June 15, 2016. GASB Statement No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans,* and GASB No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions,* are effective for periods beginning after June 15, 2017. KUB has not elected early implementation of these standards and has not completed the process of evaluating the impact of these statements on its financial statements.

No other facts, decisions, or conditions are currently known which would have a significant impact on the Division's financial position or results of operations during fiscal year 2016.

## Financial Contact

The Division's financial statements are designed to present users (citizens, customers, investors, and creditors) with a general overview of the Division's financial position and results of operations for the fiscal years ending June 30, 2016 and 2015. If you have questions about the statements or need additional financial information, contact KUB's Chief Financial Officer at 445 South Gay Street, Knoxville, Tennessee 37902.

# Knoxville Utilities Board Wastewater Division
## Statements of Net Position
## June 30, 2016 and 2015

| | 2016 | 2015 |
|---|---|---|
| **Assets and Deferred Outflows of Resources** | | |
| Current assets: | | |
| Cash and cash equivalents | $ 23,725,645 | $ 32,853,270 |
| Short-term contingency fund investments | 10,857,109 | 456,174 |
| Other current assets | 45,463 | 45,356 |
| Accrued interest receivable | 10,171 | 7,154 |
| Accounts receivable, less allowance of uncollectible accounts of $106,528 in 2016 and $88,128 in 2015 | 9,176,445 | 8,848,535 |
| Inventories | 314,034 | 248,831 |
| Prepaid expenses | 85,397 | 64,592 |
| Total current assets | 44,214,264 | 42,523,912 |
| Restricted assets: | | |
| Wastewater bond fund | 7,696,384 | 7,097,019 |
| Other funds | 4,712 | 9,218 |
| Unused bond proceeds | - | 15,605,921 |
| Total restricted assets | 7,701,096 | 22,712,158 |
| Wastewater plant in service | 812,426,671 | 770,902,707 |
| Less accumulated depreciation | (173,316,844) | (165,391,520) |
| | 639,109,827 | 605,511,187 |
| Retirement in progress | 185,012 | 187,702 |
| Construction in progress | 47,761,132 | 58,479,696 |
| Net plant in service | 687,055,971 | 664,178,585 |
| Other assets: | | |
| Net pension asset | - | 1,264,542 |
| Long-term contingency fund investments | 23,110,075 | 32,373,560 |
| Other | 5,049,594 | 5,224,902 |
| Total other assets | 28,159,669 | 38,863,004 |
| Total assets | 767,131,000 | 768,277,659 |
| Deferred outflows of resources: | | |
| Pension outflow | 2,278,604 | 663,012 |
| Unamortized bond refunding costs | 17,134,459 | 17,929,691 |
| Total deferred outflows of resources | 19,413,063 | 18,592,703 |
| Total assets and deferred outflows of resources | $ 786,544,063 | $ 786,870,362 |

The accompanying notes are an integral part of these financial statements.

# Knoxville Utilities Board Wastewater Division
## Statements of Net Position
## June 30, 2016 and 2015

| | 2016 | 2015 |
|---|---|---|
| **Liabilities, Deferred Inflows, and Net Position** | | |
| Current liabilities: | | |
| Current portion of revenue bonds | $ 10,930,000 | $ 10,930,000 |
| Accounts payable | 2,340,915 | 899,476 |
| Accrued expenses | 716,125 | 579,027 |
| Customer deposits plus accrued interest | 917,734 | 1,037,256 |
| Accrued interest on revenue bonds | 4,963,784 | 4,482,373 |
| Total current liabilities | 19,868,558 | 17,928,132 |
| Other liabilities: | | |
| Accrued compensated absences | 1,584,302 | 1,661,822 |
| Customer advances for construction | - | 306,000 |
| Net pension liability | 1,108,835 | - |
| Other | 67,881 | 85,069 |
| Total other liabilities | 2,761,018 | 2,052,891 |
| Long-term debt: | | |
| Wastewater revenue bonds | 481,400,000 | 492,330,000 |
| Unamortized premiums/discounts | 11,066,224 | 11,625,190 |
| Total long-term debt | 492,466,224 | 503,955,190 |
| Total liabilities | 515,095,800 | 523,936,213 |
| Deferred inflows of resources: | | |
| Pension inflow | 332,699 | 1,339,445 |
| Total deferred inflows of resources | 332,699 | 1,339,445 |
| Total liabilities and deferred inflows of resources | 515,428,499 | 525,275,658 |
| Net position | | |
| Net investment in capital assets | 205,783,783 | 172,143,725 |
| Restricted for: | | |
| Debt service | 2,732,600 | 2,614,646 |
| Other | 4,712 | 9,218 |
| Unrestricted | 62,594,469 | 86,827,115 |
| Total net position | 271,115,564 | 261,594,704 |
| Total liabilities, deferred inflows, and net position | $ 786,544,063 | $ 786,870,362 |

The accompanying notes are an integral part of these financial statements.

# Knoxville Utilities Board Wastewater Division
## Statements of Revenues, Expenses and Changes in Net Position
## Years Ended June 30, 2016 and 2015

| | 2016 | 2015 |
|---|---|---|
| Operating revenues | $ 83,645,509 | $ 79,206,028 |
| Operating expenses | | |
| Treatment | 12,515,728 | 11,596,638 |
| Collection | 7,462,333 | 8,608,980 |
| Customer service | 2,961,518 | 2,837,597 |
| Administrative and general | 8,571,620 | 7,845,973 |
| Provision for depreciation | 18,342,674 | 17,130,721 |
| Taxes and tax equivalents | 4,537,378 | 4,300,666 |
| Total operating expenses | 54,391,251 | 52,320,575 |
| Operating income | 29,254,258 | 26,885,453 |
| Non-operating revenues (expenses) | | |
| Contributions in aid of construction | 652,525 | 394,551 |
| Interest and dividend income | 461,544 | 301,292 |
| Interest expense | (20,168,993) | (19,355,169) |
| Amortization of debt costs | (473,327) | (405,039) |
| Write-down of plant for costs recovered through contributions | (652,525) | (394,551) |
| Other | (243,304) | (27,974) |
| Total non-operating revenues (expenses) | (20,424,080) | (19,486,890) |
| Change in net position before capital contributions | 8,830,178 | 7,398,563 |
| Capital contributions | 690,682 | 357,246 |
| Change in net position | 9,520,860 | 7,755,809 |
| Net position, beginning of year, as previously reported | 261,594,704 | 253,999,330 |
| Change in method of accounting for pension | - | (160,435) |
| Net position, beginning of year, as restated | 261,594,704 | 253,838,895 |
| Net position, end of year | $ 271,115,564 | $ 261,594,704 |

The accompanying notes are an integral part of these financial statements.

# Knoxville Utilities Board Wastewater Division
## Statements of Cash Flows
## Years Ended June 30, 2016 and 2015

| | 2016 | 2015 |
|---|---|---|
| Cash flows from operating activities: | | |
| Cash receipts from customers | $ 80,657,704 | $ 76,288,189 |
| Cash (payments to) receipts from other operations | 2,243,560 | 1,399,282 |
| Cash payments to suppliers of goods or services | (19,375,607) | (21,331,092) |
| Cash payments to employees for services | (11,216,903) | (10,185,046) |
| Payment in lieu of taxes | (3,789,989) | (3,575,461) |
| Net cash provided by operating activities | 48,518,765 | 42,595,872 |
| Cash flows from capital and related financing activities: | | |
| Net proceeds from bond issuance | - | 60,671,698 |
| Principal paid on revenue bonds and notes payable | (10,930,000) | (9,390,000) |
| (Increase) decrease in unused bond proceeds | 15,605,921 | (15,605,921) |
| Interest paid on revenue bonds and notes payable | (19,687,582) | (19,633,440) |
| Acquisition and construction of wastewater plant | (41,981,738) | (39,310,006) |
| Changes in wastewater bond fund, restricted | (599,366) | (82,523) |
| Customer advances for construction | - | (6,000) |
| Proceeds received on disposal of plant | 17,546 | - |
| Cash received from developers and individuals for capital purposes | 652,525 | 394,551 |
| Net cash used in capital and related financing activities | (56,922,694) | (22,961,641) |
| Cash flows from investing activities: | | |
| Purchase of investment securities | (1,458,958) | (7,241,807) |
| Maturities of investment securities | 455,690 | 4,810,557 |
| Interest received | 458,527 | 297,004 |
| Other property and investments | (178,955) | (60,634) |
| Net cash provided by (used in) investing activities | (723,696) | (2,194,880) |
| Net increase (decrease) in cash and cash equivalents | (9,127,625) | 17,439,351 |
| Cash and cash equivalents, beginning of year | 32,853,270 | 15,413,919 |
| Cash and cash equivalents, end of year | $ 23,725,645 | $ 32,853,270 |
| **Reconciliation of operating income to net cash provided by operating activities** | | |
| Operating income | $ 29,254,258 | $ 26,885,453 |
| Adjustments to reconcile operating income to net cash provided by operating activities: | | |
| Depreciation expense | 18,592,426 | 17,336,391 |
| Changes in operating assets and liabilities: | | |
| Accounts receivable | (327,909) | (647,772) |
| Inventories | (65,202) | (48,067) |
| Prepaid expenses | (20,805) | 11,080 |
| Other assets | (57,354) | (559,797) |
| Accounts payable and accrued expenses | 1,280,061 | (402,115) |
| Customer deposits plus accrued interest | (119,522) | 19,006 |
| Other liabilities | (17,188) | 1,693 |
| Net cash provided by operating activities | $ 48,518,765 | $ 42,595,872 |
| Noncash capital activities: | | |
| Acquisition of plant assets through developer contributions | $ 690,682 | $ 357,246 |

The accompanying notes are an integral part of these financial statements.

## 1. Description of Business

Knoxville Utilities Board (KUB), comprised of the Electric Division, Gas Division, Water Division, and Wastewater Division (Divisions), is reported as a component unit enterprise fund in the financial statements of the City of Knoxville. KUB's responsibility is to oversee the purchase, production, distribution, and processing of electricity, natural gas, water, and wastewater services. A seven-member Board of Commissioners (Board) governs KUB. The Board has all powers to construct, acquire, expand, and operate the Divisions. It has full control and complete jurisdiction over the management and operation of the Divisions including setting rates. The Wastewater Division (Division) provides services to certain customers in Knox County and in two surrounding counties in East Tennessee. The Division's accounts are maintained in conformity with the Uniform System of Accounts of the National Association of Regulatory Utility Commissioners (NARUC) and the Governmental Accounting Standards Board (GASB), as applicable. The financial statements present only the Wastewater Division and do not purport to, and do not, present fairly the consolidated financial position of Knoxville Utilities Board at June 30, 2016 and 2015, and the changes in its financial position for the years then ended in conformity with accounting principles generally accepted in the United States of America.

## 2. Significant Accounting Policies

### Basis of Accounting

In conformity with Generally Accepted Accounting Principles (GAAP), KUB follows the provisions of GASB Statement No. 34 (Statement No. 34), *Financial Statements – and Management's Discussion and Analysis – for State and Local Governments* as amended by GASB Statement No. 63 (Statement No. 63), *Financial Reporting of Deferred Outflows of Resources, Deferred Inflows of Resources and Net Position.* Statement No. 34 established standards for external financial reporting for all state and local governmental entities. Under Statement No. 63, financial statements include deferred outflows of resources and deferred inflows of resources, in addition to assets and liabilities, and will report *net position* instead of net assets. In addition, KUB follows GASB Statement No. 62 (Statement No. 62), *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements* as it relates to certain items for regulatory accounting. Regulatory accounting allows a regulated utility to defer a cost (a regulatory asset) or recognize an obligation (a regulatory liability) if it is probable that through the rate making process, there will be a corresponding increase or decrease in future revenues. Accordingly, KUB has recognized certain regulatory assets and regulatory liabilities in the accompanying Statements of Net Position.

The financial statements are prepared on the accrual basis of accounting, whereby revenues are recognized when earned and expenses are recognized when incurred. The accounting and financial reporting treatment applied to the Division is determined by measurement focus. The transactions of the Division are accounted for on a flow of economic resources measurement focus. With this measurement focus, all assets and all liabilities associated with the operations are included on the Statement of Net Position. Net position (i.e., total assets and deferred outflows of resources net of total liabilities and deferred inflows of resources) is segregated into net investment in capital assets, restricted for capital activity and debt service, and unrestricted components.

### Recently Adopted New Accounting Pronouncements

In February 2015, the Governmental Accounting Standards Board (GASB) issued Statement No. 72 (Statement No. 72), *Fair Value Measurement and Application.* Statement No. 72 is intended to provide guidance for determining a fair value measurement for financial reporting purposes and for applying fair value to certain investments and disclosures related to all fair value measurements.

In June 2015, the GASB issued GASB Statement No. 73 (Statement No. 73), *Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provision of GASB Statements 67 and 68.* The requirements of this Statement will improve financial reporting by establishing a single framework for the presentation of information about pensions and enhance comparability.

In June 2015, the GASB issued GASB Statement No. 76 (Statement No. 76), *The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments*. The objective of this Statement is to simplify the hierarchy of generally accepted accounting principles (GAAP) used to prepare financial statements of state and local governmental entities. This Statement supersedes Statement No. 55, *The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments,* and amends Statement No. 62, *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements*, paragraphs 64, 74, and 82.

In December 2015, the GASB issued GASB Statement No. 79 (Statement No. 79), *Certain External Investment Pools and Pool Participants.* This statement establishes criteria for an external investment pool to qualify for making the election to measure all of its investments at amortized cost for financial reporting purposes.

Statements No. 72, 73, 76, and 79 are effective for fiscal years beginning after June 15, 2015.

### Wastewater Plant

Wastewater plant and other property are stated on the basis of original cost. The cost of current repairs and minor replacements is charged to operating expense. The cost of renewals and improvements is capitalized. The original cost of utility plant assets retired or otherwise disposed of and the cost of removal less salvage value is charged to accumulated depreciation. When other property is retired, the related asset and accumulated depreciation are removed from the accounts, and the gain or loss is included in the results of operations.

The provision for depreciation of wastewater plant in service is based on the estimated useful lives of the assets, which range from three to fifty years, and is computed using the straight-line method. Pursuant to NARUC, the caption "Provision for depreciation" in the Statements of Revenue, Expenses and Change in Net Position does not include depreciation for transportation equipment of $249,752 in fiscal year 2016 and $205,670 in fiscal year 2015. Under regulatory accounting, interest costs are expensed as incurred with construction of plant assets.

### Operating Revenue

Operating revenue consists primarily of charges for services provided by the principal operations of the KUB Wastewater Division. Operating revenue is recorded when the service is rendered, on a cycle basis, and includes an estimate of unbilled revenue. Revenues are reported net of bad debt expense of $249,369 in fiscal year 2016 and $213,886 in fiscal year 2015.

### Non-operating Revenue

Non-operating revenue consists of revenues that are related to financing and investing types of activities and result from non-exchange transactions or ancillary activities.

## Expense

When an expense is incurred for purposes for which there are both restricted and unrestricted net assets available, it is KUB's policy to apply those expenses to restricted net assets to the extent such are available and then to unrestricted net assets.

## Net Position

GASB Statement No. 63 requires the classification of net position into three components – net investment in capital assets; net position-restricted; and net position-unrestricted.

These classifications are defined as follows:

- Net investment in capital assets – This component of net position consists of capital assets, including restricted capital assets, net of accumulated depreciation and reduced by the outstanding balances of any bonds, mortgages, notes, or other borrowings that are attributable to the acquisition, construction, or improvement of those assets. Deferred outflows of resources and deferred inflows of resources that are attributable to the acquisition, construction, or improvement of those assets or related debt also should be included in this component of net position. If there are significant unspent related debt proceeds at year end, the portion of the debt attributable to the unspent proceeds are not included in the calculation of net investment in capital assets. Rather, that portion of the debt is included in the same net position component as the unspent proceeds.

- Net position-restricted – This component of net position consists of restricted assets reduced by liabilities and deferred inflows of resources related to those assets. Generally, a liability relates to restricted assets if the asset results from a resource flow that also results in the recognition of a liability or if the liability will be liquidated with the restricted assets reported.

- Net position-unrestricted – This component of net position consists of assets, deferred outflows of resources, liabilities, and deferred inflows of resources that are not included in the determination of net investment in capital assets or the restricted component of net position.

## Contributions in Aid of Construction and Capital Contributions

Contributions in aid of construction are cash collections from customers or others for a particular purpose, generally the construction of new facilities to serve new customers in excess of the investment KUB is willing to make for a particular incremental revenue source. KUB reduces the plant account balances to which contributions relate by the actual amount of the contribution and recognizes the contributions as non-operating revenue in accordance with Statement No. 62.

Capital contributions represent contributions of utility plant infrastructure constructed by developers and others in industrial parks and other developments, and transferred to KUB upon completion of construction and the initiation of utility service. In accordance with GASB Statement No. 33, *Accounting and Financial Reporting for Nonexchange Transactions*, such contributions are recognized as revenues and capital assets upon receipt.

## Inventories

Inventories, consisting of plant materials and operating supplies, are valued at the lower of average cost or replacement value.

## Change in Method of Accounting for Pension

In June 2012, the Governmental Accounting Standards Board (GASB) issued Statement No. 68, *Accounting and Financial Reporting for Pensions – An Amendment of GASB Statement No. 27*, which revises existing standards of financial reporting for pensions. In addition, during November

2013, GASB issued Statement No. 71, *Pension Transition for Contributions Made Subsequent to the Measurement Date*, which requires deferred outflow of resources to be recognized for any contributions made subsequent to the measurement date of the beginning net pension liability. These standards were adopted by KUB in 2015 and resulted in a restatement of 2015 beginning net position of $763,975 (Division's share $160,435).

### Pension Plan

KUB's employees are participants in the Knoxville Utilities Board Pension Plan as authorized by the Charter of the City of Knoxville §1107(J) (Note 10). KUB's policy is to fully fund the annual actuarially determined contributions. As required by GASB Statement No. 68, KUB measures net pension liability as total pension liability less the amount of the Plan's fiduciary net position. The amounts reported as of June 30, 2016 and 2015 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2016 and 2015 are based on a December 31, 2015 and 2014 measurement date, respectively.

### Investments

Investments are carried at fair value as determined by quoted market prices at the reporting date.

### Self-Insurance

KUB has established self-insurance programs covering portions of workers' compensation, employee health, environmental liability, general liability, property and casualty liability, and automobile liability claims. A liability is accrued for claims as they are incurred. When applicable, claims in excess of the self-insured risk are covered by KUB's insurance carrier. Additionally, KUB provides certain lifetime health benefits to eligible retired employees under a self-insurance plan administered by a third party.

### Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. These estimates are based on historical experience and various other assumptions that KUB believes are reasonable under the circumstances. However, future events are subject to change and the best estimates and judgments routinely require adjustment. Estimates are used for, but not limited to, inventory valuation, allowance for uncollectible accounts, depreciable lives of plant assets, unbilled revenue volumes, pension trust valuations, OPEB trust valuations, insurance liability reserves, and potential losses from contingencies and litigation. Actual results could differ from those estimates.

### Restricted and Designated Assets

Certain assets are restricted by bond resolutions for utility plant construction and debt repayment. Certain additional assets are designated by management for contingency purposes and economic development.

### Cash Equivalents

For purposes of the Statements of Cash Flows, KUB considers all unrestricted and undesignated highly liquid investments with an original maturity of three months or less when purchased to be cash equivalents.

### Deferred Outflows and Inflows of Resources

Deferred outflows of resources are items previously reported as assets related to the acquisition of assets or related debt which are amortized over the life of the asset or debt. Deferred inflows of resources are items previously reported as liabilities related to the acquisition of assets or related debt which are amortized over the life of the asset or debt. KUB records costs associated with the gain or loss on refunding of debt as either a deferred outflow or inflow based on the parameters of Statement No. 65. Deferred outflows of resources also include employer pension contributions made subsequent to the measurement date of the net pension liability and before the end of the employer's reporting period in accordance with Statement No. 71. Deferred inflows and deferred outflows also include the net difference between projected and actual earnings on pension plan investments and differences between expected and actual experience in accordance with Statement No. 68.

### Debt Premium/Discount

KUB records unamortized premium and discount on debt as a separate line item in the Long Term Debt section of the Financial Statements. Amortization of these amounts is recorded over the life of the applicable debt as amortization expense.

### Debt Issuance Costs

In accordance with regulatory accounting, KUB records debt issuance costs as an Other Asset. Amortization of these amounts is recorded over the life of the applicable debt as amortization expense.

### Deferred Gain/Loss on Refunding of Debt

KUB records costs associated with the gain or loss on refunding of debt as either a deferred outflow or inflow based on the parameters of Statement No. 65. Amortization of these amounts is recorded over the life of the applicable debt as amortization expense.

### Compensated Absences

KUB accrues a liability for earned but unpaid paid-time off (PTO) days.

### Subsequent Events

KUB has evaluated events and transactions through October 27, 2016, the date these financial statements were issued, for items that should potentially be recognized or disclosed. KUB sold $20 million in wastewater system revenue bonds in July 2016 for the purpose of funding wastewater system capital improvements in fiscal year 2017. The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.72 percent.

### Recently Issued Accounting Pronouncements

In June 2015, the GASB issued two related Statements that affect accounting and financial reporting by state and local governments for postemployment benefits other than pensions (OPEB). GASB Statement No. 74 (Statement No. 74), *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*, addresses reporting by OPEB plans that administer benefits on behalf of governments. GASB Statement No. 75 (Statement No. 75), *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*, addresses reporting by governments that provide OPEB to their employees. Statement No. 74 is effective for fiscal years beginning after June 15, 2016, and Statement No. 75 is effective for fiscal years beginning after June 15, 2017.

In March 2016, the GASB issued GASB Statement No. 82 (Statement No. 82), *Pension Issues – An amendment of GASB Statements No. 67, No. 68 and No. 73*. The objective of this Statement is to address certain issues that have been raised with respect to the presentation of payroll-related measures in required supplementary information, the selection of assumptions and treatment of deviations from the guidance in an Actuarial Standard of Practice for financial reporting purposes and the classification of payments made by employers to satisfy employee contribution obligations. Statement No. 82 is effective for fiscal years beginning after June 15, 2016.

KUB has not elected early implementation of these standards and has not completed the process of evaluating the impact of these statements on its financial statements.

## 3. Deposits and Investments

KUB follows the provisions of Statement No. 40 of the Governmental Accounting Standards Board, *Deposit and Investment Risk Disclosures an amendment of GASB Statement No. 3*. This Statement establishes and modifies disclosure requirements for state and local governments related to deposit and investment risks. KUB classifies its fair value measurements within the fair value hierarchy established by Statement No. 72 of the Governmental Accounting Standards Board, *Fair Value Measurement and Application*.

KUB's investment policy provides the framework for the administration and investment of cash deposits. The investment policy follows Tennessee State law and defines the parameters under which KUB funds should be invested. State law authorizes KUB to invest in obligations of the United States Treasury, its agencies and instrumentalities; certificates of deposit; repurchase agreements; money market funds; and the State Treasurer's Investment Pool.

*Interest Rate Risk.* KUB's primary investment objectives are to place investments in a manner to ensure the preservation of capital, remain sufficiently liquid to meet all operating requirements, and maximize yield of return. KUB minimizes its exposure to interest rate risk by adhering to Tennessee State law requirements for the investment of public funds. This includes limiting investments to those types described above and limiting maturity horizons. The maximum maturity is four years from the date of investment. KUB also limits its exposure by holding investments to maturity unless cash flow requirements dictate otherwise.

*Credit Risk.* KUB's investment policy, as required by state law, is to apply the prudent-person rule: Investments are made with judgment and care, under circumstances then prevailing, which persons of prudence, discretion, and intelligence exercise in the management of their own affairs, not for speculation, but for investment, considering the probable income to be derived, as well as the probable safety of their capital. KUB's Agency Bond investments are rated Aaa by Moody's Investors Service.

*Custodial Credit Risk*. KUB's investment policy limits exposure to custodial credit risk by restricting investments to a standard set forth by State law. All deposits in excess of federal depository insurance limits are collateralized with government securities held in KUB's name by a third-party custodian bank(s) acting as KUB's agent(s), or through the State of Tennessee's collateral pool. Financial institutions that participate in the collateral pool are subject to special assessment; therefore, the deposits are considered insured. A portion of KUB's investments are generally held in the State of Tennessee Local Government Investment Pool (LGIP). The LGIP is a part of the State Pooled Investment Fund and is sponsored by the State of Tennessee Treasury Department. Tennessee Code Annotated ¶9-4-701 *et seq*. authorizes local governments to invest in the LGIP. None of KUB's investments are exposed to custodial credit risk.

Classification of deposits and investments per Statement of Net Position:

| | 2016 | 2015 |
|---|---|---|
| Current assets | | |
| Cash and cash equivalents | $ 23,725,645 | $ 32,853,270 |
| Short-term contingency fund investments | 10,857,109 | 456,174 |
| Other assets | | |
| Long-term contingency fund investments | 23,006,967 | 32,306,048 |
| Restricted assets | | |
| Unused bond proceeds | - | 15,605,874 |
| Wastewater bond fund | 7,696,384 | 7,097,019 |
| Other funds | 4,712 | 9,218 |
| | $ 65,290,817 | $ 88,327,603 |

The above amounts do not include accrued interest of $103,108 in fiscal year 2016 and $67,559 in fiscal year 2015. Interest income is recorded on an accrual basis.

Investments and maturities of KUB's deposits and investments as held by financial institutions as of June 30, 2016:

| | Deposit and Investment Maturities (in Years) | | |
|---|---|---|---|
| | Fair Value | Less Than 1 | 1-5 |
| Supersweep NOW and Other Deposits | $ 29,749,540 | $ 29,749,540 | $ - |
| State Treasurer's Investment Pool | 1,654,595 | 1,654,595 | - |
| Agency Bonds | 37,801,501 | 10,857,109 | 26,944,392 |
| Certificates of Deposits | 7,124,064 | 6,041,689 | 1,082,375 |
| | $ 76,329,700 | $ 48,302,933 | $ 28,026,767 |

KUB categorizes its fair value measurements within the fair value hierarchy established by Statement No. 72 of the Governmental Accounting Standards Board, *Fair Value Measurement and Application*. The hierarchy is based on the valuation inputs used to measure the fair value of an asset with a maturity at purchase greater than one year. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs.

KUB has the following recurring fair value measurements as of June 30, 2016:

- U.S. Agency bonds of $26,944,392, which have a maturity at purchase of greater than one year, are valued using quoted market prices (Level 1 inputs)
- Certificates of deposits of $1,082,375, which have a maturity at purchase of greater than one year, are valued at interest rates and yield curves observable at commonly quoted intervals (Level 2 inputs)

KUB measures investments with a maturity at purchase of one year or less at amortized cost, which is considered a fair value equivalent due to their nature. Investments in the State Treasurer's Investment Pool are measured at net asset value (NAV) per share.

## 4. Accounts Receivable

Accounts receivable consists of the following:

| | 2016 | 2015 |
|---|---|---|
| Wholesale and retail customers | | |
| Billed services | $ 5,053,928 | $ 4,886,812 |
| Unbilled services | 3,529,053 | 3,206,393 |
| Other | 699,992 | 843,458 |
| Allowance for uncollectible accounts | (106,528) | (88,128) |
| | $ 9,176,445 | $ 8,848,535 |

## 5. Accounts Payable and Accruals

Accounts payable and accruals were composed of the following:

| | 2016 | 2015 |
|---|---|---|
| Trade accounts | $ 2,340,915 | $ 899,476 |
| Salaries and wages | 330,469 | 222,361 |
| Self-insurance liabilities | 385,656 | 356,666 |
| | $ 3,057,040 | $ 1,478,503 |

## 6. Long-Term Obligations

Long-term debt consists of the following:

| | Balance June 30, 2015 | Additions | Payments | Defeased | Balance June 30, 2016 | Amounts Due Within One Year |
|---|---|---|---|---|---|---|
| 2005 B - 3.0 - 5.0% | $ 16,045,000 | $ - | $ 1,410,000 | $ - | $ 14,635,000 | $ 1,470,000 |
| 2008 - 4.0 - 6.0% | 11,000,000 | - | 4,450,000 | - | 6,550,000 | 4,600,000 |
| 2010 - 6.3 - 6.5% | 30,000,000 | - | - | - | 30,000,000 | - |
| 2010C - 1.18 - 6.1% | 65,750,000 | - | 1,250,000 | - | 64,500,000 | 1,400,000 |
| 2012A - 2.0 - 4.0% | 15,415,000 | - | 820,000 | - | 14,595,000 | 840,000 |
| 2012B - 1.25 - 5.0% | 63,275,000 | - | 925,000 | - | 62,350,000 | 975,000 |
| 2013A - 2.0 - 4.0% | 112,325,000 | - | 610,000 | - | 111,715,000 | 620,000 |
| 2014A - 2.0 - 4.0% | 29,625,000 | - | 425,000 | - | 29,200,000 | 450,000 |
| 2015A - 3.0 - 5.0% | 129,825,000 | - | 465,000 | - | 129,360,000 | 125,000 |
| 2015B - 3.0 - 5.0% | 30,000,000 | - | 575,000 | - | 29,425,000 | 450,000 |
| Total bonds | $ 503,260,000 | $ - | $ 10,930,000 | $ - | $ 492,330,000 | $ 10,930,000 |
| Unamortized Premium | 11,625,190 | - | 558,966 | - | 11,066,224 | - |
| Total long term debt | $ 514,885,190 | $ - | $ 11,488,966 | $ - | $ 503,396,224 | $ 10,930,000 |

| | Balance June 30, 2014 | Additions | Payments | Defeased | Balance June 30, 2015 | Amounts Due Within One Year |
|---|---|---|---|---|---|---|
| 2005 A - 4.0 - 5.0% | $ 36,550,000 | $ - | $ - | $ 36,550,000 | $ - | $ - |
| 2005 B - 3.0 - 5.0% | 17,395,000 | - | 1,350,000 | - | 16,045,000 | 1,410,000 |
| 2007 - 4.0 - 5.0% | 75,000,000 | - | - | 75,000,000 | - | - |
| 2008 - 4.0 - 6.0% | 30,975,000 | - | 4,300,000 | 15,675,000 | 11,000,000 | 4,450,000 |
| 2010 - 6.3 - 6.5% | 30,000,000 | - | - | - | 30,000,000 | - |
| 2010C - 1.18 - 6.1% | 66,850,000 | - | 1,100,000 | - | 65,750,000 | 1,250,000 |
| 2012A - 2.0 - 4.0% | 16,215,000 | - | 800,000 | - | 15,415,000 | 820,000 |
| 2012B - 1.25 - 5.0% | 64,150,000 | - | 875,000 | - | 63,275,000 | 925,000 |
| 2013A - 2.0 - 4.0% | 112,915,000 | - | 590,000 | - | 112,325,000 | 610,000 |
| 2014A - 2.0 - 4.0% | - | 30,000,000 | 375,000 | - | 29,625,000 | 425,000 |
| 2015A - 3.0 - 5.0% | - | 129,825,000 | - | - | 129,825,000 | 465,000 |
| 2015B - 3.0 - 5.0% | - | 30,000,000 | - | - | 30,000,000 | 575,000 |
| Total bonds | $ 450,050,000 | $ 189,825,000 | $ 9,390,000 | $ 127,225,000 | $ 503,260,000 | $ 10,930,000 |
| Unamortized Premium | 4,154,409 | 8,539,211 | 312,636 | 755,794 | 11,625,190 | - |
| Total long term debt | $ 454,204,409 | $ 198,364,211 | $ 9,702,636 | $ 127,980,794 | $ 514,885,190 | $ 10,930,000 |

Debt service over remaining term of the debt is as follows:

| Fiscal | Total | | Grand |
|---|---|---|---|
| Year | Principal | Interest | Total |
| 2017 | $ 10,930,000 | $ 19,855,137 | $ 30,785,137 |
| 2018 | 11,380,000 | 19,439,779 | 30,819,779 |
| 2019 | 11,810,000 | 18,969,000 | 30,779,000 |
| 2020 | 12,320,000 | 18,473,025 | 30,793,025 |
| 2021 | 12,830,000 | 17,958,645 | 30,788,645 |
| 2022-2026 | 70,625,000 | 80,921,305 | 151,546,305 |
| 2027-2031 | 76,135,000 | 67,260,745 | 143,395,745 |
| 2032-2036 | 91,580,000 | 52,086,863 | 143,666,863 |
| 2037-2041 | 105,745,000 | 32,888,520 | 138,633,520 |
| 2042-2046 | 74,600,000 | 11,970,575 | 86,570,575 |
| 2047-2050 | 14,375,000 | 1,076,675 | 15,451,675 |
| Total | $ 492,330,000 | $ 340,900,269 | $ 833,230,269 |

The Division has pledged sufficient revenue, after deduction of all current operating expenses (exclusive of tax equivalents), to meet bond principal and interest payments when due. The bond covenants relating to the Wastewater Revenue Bonds require the establishment of a Wastewater Bond Fund for the payment of principal and interest requirements. As of June 30, 2016, those bond covenants had been satisfied.

During fiscal year 2006, KUB's Wastewater Division issued Series 2005B bonds in part to retire certain existing debt and fund wastewater system capital improvements. Concurrent with the issuance of these bonds, KUB transferred funds to an irrevocable trust to pay a portion of the Series 1998 bonds and Series 2001A bonds, as such amounts mature.

During fiscal year 2009, KUB's Wastewater Division issued Series 2008 bonds to fund wastewater system capital improvements.

During fiscal year 2010, KUB's Wastewater Division issued Series 2010 bonds to fund capital improvements. These bonds were issued as federally taxable Build America Bonds with a 35 percent interest payment rebate to be received from the United States Government for each interest payment. Effective October 1, 2015 these bonds became subject to a 6.8 percent reduction in rebate payment amounts due to the United States Government sequestration. The sequestration is effective until intervening Congressional action, at which time the sequestration rate is subject to change.

During fiscal year 2011, KUB's Wastewater Division issued Series 2010C bonds to fund wastewater system capital improvements. These bonds were issued as federally taxable Build America Bonds with a 35 percent interest payment rebate to be received from the United States Government for each interest payment. Effective October 1, 2015 these bonds became subject to a 6.8 percent reduction in rebate payment amounts due to the United States Government sequestration. The sequestration is effective until intervening Congressional action, at which time the sequestration rate is subject to change.

During fiscal year 2012, KUB's Wastewater Division issued Series 2012A bonds to retire Series 2004A bonds.

During fiscal year 2013, KUB's Wastewater Division issued Series 2012B bonds to fund wastewater system capital improvements. KUB's Wastewater Division also issued Series 2013A bonds to retire a portion of outstanding Series 2005A bonds.

During fiscal year 2015, KUB's Wastewater Division issued Series 2015A bonds to retire a portion of outstanding Series 2005A, Series 2007, and Series 2008 bonds. KUB's Wastewater Division also issued Series 2014A and Series 2015B bonds to fund wastewater system capital improvements.

In prior years, certain revenue bonds were defeased by placing the proceeds of new bonds in an irrevocable trust to provide for all future debt service payments on the old bonds. Accordingly, the liability for the defeased bonds, $90.7 million at June 30, 2016, and the trust account assets are not included in the financial statements.

Other liabilities consist of the following:

| | Balance June 30, 2015 | Increase | Decrease | Balance June 30, 2016 |
|---|---|---|---|---|
| Accrued compensated absences | $ 1,661,822 | $ 3,192,415 | $ (3,269,935) | $ 1,584,302 |
| Customer advances for construction | 306,000 | | (306,000) | - |
| Other | 85,069 | 143,427 | (160,615) | 67,881 |
| | $ 2,052,891 | $ 3,335,842 | $ (3,736,550) | $ 1,652,183 |

## 7. Lease Commitments

KUB has non-cancelable operating lease commitments for office equipment, property, and vehicles, summarized for the following fiscal years:

| | |
|---|---|
| 2017 | $ 8,047 |
| 2018 | 4,749 |
| 2019 | 2,972 |
| 2020 | 1,801 |
| Total operating minimum lease payments | $ 17,569 |

## 8. Capital Assets

Capital asset activity was as follows:

| | Balance June 30, 2015 | Increase | Decrease | Balance June 30, 2016 |
|---|---|---|---|---|
| **Pumping & Treatment Plant** | $ 206,630,404 | $ 14,986,965 | $ (1,850,766) | $ 219,766,603 |
| **Collection Plant** | | | | |
| Mains and Metering | 457,776,419 | 35,573,089 | (9,665,081) | 483,684,427 |
| Other Accounts | 80,547,995 | 3,357 | (165,471) | 80,385,881 |
| **Total Collection Plant** | $ 538,324,414 | $ 35,576,446 | $ (9,830,552) | $ 564,070,308 |
| **Total General Plant** | 25,947,889 | 2,975,604 | (333,733) | 28,589,760 |
| **Total Wastewater Plant** | $ 770,902,707 | $ 53,539,015 | $ (12,015,051) | $ 812,426,671 |
| Less accumulated depreciation | (165,391,520) | (18,624,856) | 10,699,532 | (173,316,844) |
| **Net Plant Assets** | $ 605,511,187 | $ 34,914,159 | $ (1,315,519) | $ 639,109,827 |
| Work In Progress | 58,667,398 | 41,026,770 | (51,748,024) | 47,946,144 |
| **Total Net Plant** | $ 664,178,585 | $ 75,940,929 | $ (53,063,543) | $ 687,055,971 |

| | Balance June 30, 2014 | Increase | Decrease | Balance June 30, 2015 |
|---|---|---|---|---|
| **Pumping & Treatment Plant** | $ 202,877,753 | $ 4,119,355 | $ (366,704) | $ 206,630,404 |
| **Collection Plant** | | | | |
| Mains and Metering | 450,538,908 | 9,876,536 | (2,639,025) | 457,776,419 |
| Other | 80,411,724 | 197,288 | (61,017) | 80,547,995 |
| **Total Collection Plant** | $ 530,950,632 | $ 10,073,824 | $ (2,700,042) | $ 538,324,414 |
| **Total General Plant** | 24,303,876 | 1,974,951 | (330,938) | 25,947,889 |
| **Total Wastewater Plant** | $ 758,132,261 | $ 16,168,130 | $ (3,397,684) | $ 770,902,707 |
| Less accumulated depreciation | (151,608,595) | (17,196,280) | 3,413,355 | (165,391,520) |
| **Net Plant Assets** | $ 606,523,666 | $ (1,028,150) | $ 15,671 | $ 605,511,187 |
| Work In Progress | 35,777,951 | 39,146,048 | (16,256,601) | 58,667,398 |
| **Total Net Plant** | $ 642,301,617 | $ 38,117,898 | $ (16,240,930) | $ 664,178,585 |

## 9. Risk Management

KUB is exposed to various risks of loss related to active and retiree medical claims; injuries to workers; theft of, damage to, and destruction of assets; environmental damages; and natural disasters. Claims expenditures and liabilities are reported when it is probable that a loss has occurred and the amount of that loss can be reasonably estimated. These losses include an estimate of claims that have been incurred but not reported.

These liabilities are included in accrued expenses in the Statement of Net Position. The liability is KUB's best estimate based on available information. At June 30, 2016 and 2015, the amount of these liabilities was $385,656 and $356,666, respectively, resulting from the following changes:

| | 2016 | 2015 |
|---|---|---|
| Balance, beginning of year | $ 356,666 | $ 330,289 |
| Current year claims and changes in estimates | 3,104,281 | 2,971,832 |
| Claims payments | (3,075,291) | (2,945,455) |
| Balance, end of year | $ 385,656 | $ 356,666 |

## 10. Pension Plan

### Description of Plan

The Knoxville Utilities Board Pension Plan (the Plan) is a governmental plan as defined by the Employee Retirement Income Security Act of 1974 ("ERISA" or the "Act"), is not subject to any of the provisions of the Act, and was revised January 1, 2014 to include all prior approved amendments. The Plan is a single-employer contributory, defined benefit pension plan established by Knoxville Utilities Board ("KUB") Resolution No. 980 dated February 18, 1999, effective July 1, 1999, as authorized by the Charter of the City of Knoxville §1107(J). The Plan is designed to provide retirement, disability and death benefits to KUB employees. KUB administers the Plan through an Administrative Committee consisting of seven KUB employees that are appointed by KUB's President and CEO. Any amendments to the Plan involving costs not approved in the operating budget must be adopted by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Plan may be approved by KUB's President and CEO upon 60 days notification to the KUB Audit and Finance Committee. The Plan issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017. For purposes of this disclosure, presentation is on a consolidated basis unless division's share is specified.

Effective January 1, 2011, KUB closed the Plan such that persons employed or re-employed by KUB on or after January 1, 2011, are not eligible to participate, but that eligible employees hired prior to January 1, 2011, who have not separated from service, shall continue as Participants and to accrue benefits under the Plan.

Participants in the Plan consisted of the following as of December 31:

| | 2015 | 2014 |
|---|---|---|
| Inactive plan members: | | |
| Terminated vested participants | 39 | 40 |
| Retirees and beneficiaries | 628 | 627 |
| Active plan members | 692 | 725 |
| Total | 1,359 | 1,392 |

### Retirement Benefits

The Plan provides three benefit arrangements for KUB participants, retirees, and beneficiaries.

The Plan provides pension benefits through the Career Equity Program ("CEP") for eligible employees hired on or after January 1, 1999, and for eligible former "City System Plan A" participants who elected CEP coverage as of July 1, 1999. The guaranteed pension benefit payable to a participant who has completed five or more years of service (or reached the normal retirement date, if earlier) upon termination of KUB employment shall be a lump sum equal to the participant's average compensation times their benefit percentage, as defined in the Plan document, or an annuity may be chosen by the participant.

In addition, the Plan provided retirement benefits through "Plan A" for former City System Plan A participants who elected not to participate in the CEP. Plan A is a closed plan and is not available to KUB employees hired after July 1, 1999. Plan A provides for early retirement benefits with 25 years of service and normal retirement benefits at age 62 or later. Benefits provided to Plan A participants include several different forms of monthly annuity payments.

The Plan also provides retirement benefits through "Plan B" for former "City System Plan B" participants. Plan B is a closed plan providing benefits to participants not covered by Social Security. Benefits provided to Plan B participants include several different forms of monthly annuity payments available to participants.

Effective January 1, 2012, KUB began to provide for additional monthly supplements, which will not be subject to cost of living adjustments, to certain former employees and surviving dependents of former employees who are eligible for and have elected coverage under the KUB retiree medical plan and are eligible for Medicare. This was done to address the loss of drug coverage under the KUB retiree medical plan and to assist such individuals in obtaining prescription drug coverage under Medicare Part D.

### Contributions

Participation in Plan A requires employee contributions of 3 percent of the first $4,800 of annual earnings and 5 percent of annual earnings in excess of $4,800. Plan B participants may not make contributions to the Plan. KUB contributions are determined by the enrolled actuary of the Plan and equal the amount necessary to provide the benefits under the Plan determined by the application of accepted actuarial methods and assumptions. The method of funding shall be consistent with Plan objectives.

### Plan Funding

KUB maintains a Funding Policy for the Plan in accordance with Tennessee State Law. The primary goal of the Policy is to document the method KUB has adopted to provide assurance that future KUB and employee contributions and current Plan assets will be sufficient to fund all benefits expected to be paid to current active, inactive and retired Plan participants and their beneficiaries. Per the Funding Policy, KUB fully funds its annual Actuarially Determined Contribution.

### Investments

The Plan's investments are held by State Street Bank and Trust Company (the "Trustee"). The Plan's policy in regard to the allocation of invested assets is established by the Investment Committee and approved by the KUB Board of Commissioners and may only be amended by the KUB Board of Commissioners. It is the policy of the Investment Committee to pursue an investment strategy that reduces risk through the prudent diversification of the portfolio across a broad selection of distinct asset classes. The following was the Plan's adopted asset allocation policy as of December 31, 2015:

| Asset Class | Target Allocation |
|---|---|
| Domestic equity – large cap | 20% - 50% |
| Domestic equity – mid cap | 0% - 15% |
| Domestic equity – small cap | 0% - 15% |
| Domestic equity - convertible securities | 0% - 10% |
| Non-U.S. equity | 0% - 20% |
| Real estate equity | 0% - 10% |
| Fixed income – aggregate bonds | 5% - 25% |
| Fixed income – long-term bonds | 10% - 25% |
| Cash and deposits | 0% - 5% |

Contributions of $5,669,380 and $6,314,399 for 2014 and 2013, respectively, were made during KUB's fiscal years ending June 30, 2016 and 2015, respectively. Of these amounts, $1,247,264 and $1,326,024 are attributable to the Wastewater Division. The contribution was determined as part of the January 1, 2014 valuation using the Individual Entry Age Normal funding method. The objective under this method is to fund each participant's benefits under the Plan as payments which are level as a percentage of salary, starting on the original participation date (employment date) and continuing until the assumed retirement, termination, disability or death. The actuarial valuation for the Plan year ending December 31, 2015 resulted in an actuarially determined contribution of $4,816,913 for the fiscal year ending June 30, 2017, based on the Plan's current funding policy. The Wastewater Division's portion of this contribution is $1,059,721.

Subsequent to June 30, 2016, the actuarial valuation for the Plan year ending December 31, 2016 was completed. The actuarial valuation resulted in an actuarially determined contribution of $3,756,283 for the fiscal year ending June 30, 2018, based on the Plan's current funding policy. The Wastewater Division's portion of this contribution is $826,382. For the Plan year ending December 31, 2016, the Plan's actuarial funded ratio was 103.04 percent.

The actuarial valuations for the Plan years ending December 31, 2015 and 2016, which determine the actuarially determined contribution for future fiscal years ending June 30, 2017 and 2018, have not been audited.

### Implementation of GASB 68

In fiscal year 2015, KUB adopted GASB Statement No. 68, *Accounting and Financial Reporting for Pensions – an amendment of GASB Statement No. 27* ("GASB 68"), which requires measurement of the net pension liability as total pension liability less the amount of the Plan's fiduciary net position. The amounts reported as of June 30 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2016 and 2015 will be based on the December 31, 2015 and 2014 measurement date, respectively. The division's share of the net pension liability at June 30, 2016 is $1,108,835 and the net pension asset at June 30, 2015 is $1,264,542.

GASB 68 requires certain disclosures related to the net pension liability of the Plan as disclosed below:

| | | **2015** | | **2014** |
|---|---|---|---|---|
| Total pension liability | $ | 204,502,350 | $ | 202,773,764 |
| Plan fiduciary net position | | 199,462,190 | | (208,795,394) |
| Plan's net pension liability (asset) | $ | 5,040,160 | $ | (6,021,630) |
| | | | | |
| Plan fiduciary net position as a percentage of the total pension liability | | 97.54% | | 102.97% |

Changes in Net Pension Liability are as follows:

| | | Total Pension Liability (a) | | Increase (Decrease) Plan Fiduciary Net Position (b) | | Net Pension Liability (a) - (b) |
|---|---|---|---|---|---|---|
| Balances at December 31, 2014 | $ | 202,773,764 | $ | 208,795,394 | $ | (6,021,630) |
| Changes for the year: | | | | | | |
| Service cost | | 4,157,062 | | - | | 4,157,062 |
| Interest | | 14,812,784 | | - | | 14,812,784 |
| Differences between Expected and Actual Experience | | (1,890,334) | | - | | (1,890,334) |
| Changes of Assumptions | | - | | - | | - |
| Contributions - employer | | - | | 5,991,887 | | (5,991,887) |
| Contributions - rollovers | | - | | 482,060 | | (482,060) |
| Contributions - member | | - | | 5,486 | | (5,486) |
| Net investment income | | - | | (64,551) | | 64,551 |
| Benefit payments | | (15,350,926) | | (15,350,926) | | - |
| Administrative expense | | - | | (397,160) | | 397,160 |
| Net changes | | 1,728,586 | | (9,333,204) | | 11,061,790 |
| Balances at December 31, 2015 | $ | 204,502,350 | $ | 199,462,190 | $ | 5,040,160 |

*Actuarial Assumptions*

The total pension liability was determined by an actuarial valuation as of December 31, 2015 and 2014, using the following actuarial assumptions, applied to all periods included in the measurement:

| | |
|---|---|
| Actuarial cost method: | Individual entry age |
| Asset valuation method: | 5-year smoothed market |
| Amortization method: | Level dollar closed period with 28 years remaining as of January 1, 2013 and 27 years remaining as of January 1, 2014 |
| Discount rate: | 8% at January 1, 2013 and 7.5% at January 1, 2014 |
| Salary increases: | From 2.58% to 7.92% for January 1, 2013 and from 2.80% to |

| | |
|---|---|
| | 5.15% for January 1, 2014, based on years of service |
| Mortality: | Sex distinct RP-2000 Combined Mortality projected to 2018 using Scale AA for the January 1, 2013 valuation. Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA for the January 1, 2014 valuation |
| Inflation | 2.8 percent |

The actuarial assumptions used in the December 31, 2015 valuation were based on the results of an actuarial experience study for the period January 1, 2009 through December 31, 2013.

The long-term expected rate of return on Plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the Plan's target asset allocation as of December 31, 2015 and 2014 are summarized in the following table. The real rate of return reported for fixed income is for aggregate fixed income. The Plan has both aggregate and long duration fixed income.

| | **Long Term Expected Real Rate of Return** | |
|---|---|---|
| **Asset Class** | **2015** | **2014** |
| Domestic equity | 7.2% | 6.0% |
| Non-U.S. equity | 7.4% | 7.0% |
| Real estate equity | 6.5% | 5.7% |
| Fixed income | 3.7% | 1.8% |
| Cash and deposits | 2.6% | 0.5% |

*Discount rate*

The discount rate used to measure the total pension liability was 7.5 percent as of January 1, 2015 and 2014. The projection of cash flows used to determine the discount rate assumed that participant contributions will be made at the current contribution rate and that KUB contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

*Sensitivity of the net pension liability to changes in the discount rate*

The following presents the net pension liability of the Plan as of December 31, 2015, calculated using the discount rate of 7.5 percent, as well as what the Plan's net pension liability would be if it were calculated using a discount rate that is one percent lower (6.5 percent) or one percent higher (8.5 percent) than the current rate:

| | **1% Decrease (6.5%)** | **Current Discount Rate (7.5%)** | **1% Increase (8.5%)** |
|---|---|---|---|
| Plan's net pension liability | $ 17,128,897 | $ 5,040,160 | $ (5,963,331) |

### Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the year ended June 30, 2015, KUB recognized pension expense of $2,749,905 (Division's share $577,480).

The impact of experience gains or losses and assumption changes on the Total Pension Liability are recognized in expense over the average expected remaining service life of all active and inactive members. As of the measurement date, this recognition period was 3.72 years. However, there were no experience gains or losses, and there were no assumption changes during the measurement year.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment gain of $7,972,887. $1,594,577 of that gain was recognized in the current year and an identical amount will be recognized in each of the next four years, resulting in a deferred inflow of resources of $6,378,310 (Division's share $1,339,445). The table below summarizes the current balances of deferred outflows and deferred inflows of resources along with the net recognition over the next five years. In addition, KUB recorded a deferred outflow of resources of $3,157,199 (Division's share $663,012) at June 30, 2015 for employer contributions made between December 31, 2014 and June 30, 2015.

| | Deferred Outflows of Resources | Deferred Inflows of Resources |
|---|---|---|
| Differences between expected and actual experience | $ - | $ - |
| Changes in assumptions | - | - |
| Net difference between projected and actual earnings on pension plan investments | - | 6,378,310 |
| Contributions subsequent to measurement date | 3,157,199 | - |
| Total | $ 3,157,199 | $ 6,378,310 |

For the year ended June 30, 2016, KUB recognized pension expense of $4,665,035 (Division's share $1,026,308).

The impact of experience gains or losses and assumption changes on the Total Pension Liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2014, this average was 5.00 years. During the measurement year, there were no assumption or benefit changes. There was an experience gain of $1,890,334 with $378,067 of that recognized in the current year and in each of the next four years.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment loss of $15,382,915. $3,076,583 of that loss was recognized in the current year and an identical amount will be recognized in each of the next four years. Unrecognized investment gains from prior periods were $6,378,310 of which $1,594,577 was recognized as a reduction in pension expense in the current year.

Experience gains this year created a deferred inflow of resources of $1,512,267 (Division's share $332,699). The combination of unrecognized investment losses this year along with unrecognized net investment gains from prior periods results in a deferred outflow of resources as of December 31, 2015 of $7,522,599 (Division's share $1,654,972). The table below summarizes the current balances of deferred outflows and deferred inflows of resources along with the net recognition over future years. In addition, KUB recorded a deferred outflow of resources of $2,834,692 (Division's share $623,632) at June 30, 2016 for employer contributions made between December 31, 2015 and June 30, 2016.

| | Deferred Outflows of Resources | Deferred Inflows of Resources |
|---|---|---|
| Differences between expected and actual experience | $ - | $ 1,512,267 |
| Changes in assumptions | - | - |
| Net difference between projected and actual earnings on pension plan investments | 7,522,599 | - |
| Contributions subsequent to measurement date | 2,834,692 | - |
| Total | $ 10,357,291 | $ 1,512,267 |

Amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:

| Year ended June 30: | |
|---|---|
| 2017 | $ 3,938,630 |
| 2018 | 1,103,939 |
| 2019 | 1,103,938 |
| 2020 | 2,698,517 |
| Thereafter | - |

## 11. Defined Contribution Plan

The KUB Asset Accumulation 401(k) Plan (the "401(k) Plan") is a defined contribution 401(k) employee retirement savings plan covering eligible KUB employees established by the KUB Board of Commissioners in accordance with the Charter of the City of Knoxville, Tennessee. The 401(k) Plan's assets are held in trust under an agreement between KUB and Fidelity Management Trust Company. Employees hired prior to January 1, 2011 may participate and receive a matching contribution of 50 percent of their own contribution up to a maximum match of 3 percent. Employees hired on or after January 1, 2011 have an enhanced 401(k) due to the closure of the Defined Benefit Pension Plan. They may participate and receive a matching contribution of 50 percent of their own contribution up to a maximum match of 3 percent. They also receive a nonelective KUB contribution of from 3 percent to 6 percent, depending on years of service, whether they contribute or not.

Matching contributions were previously remitted to the KUB Pension Plan (a separate defined benefit plan) in the name of the participant for employees hired prior to January 1, 2011. As of December 9, 2015, these Pension match assets moved from the KUB Pension Plan to the 401(k) Plan. Effective December 9, 2015, all matching contributions are remitted to the 401(k) Plan. The match and nonelective contributions for employees hired on or after January 1, 2011 are paid directly by KUB. KUB funded 401(k) matching contributions and nonelective contributions of

$1,739,057 (Division's share $382,593) and $1,593,350 (Division's share $334,604), respectively, for the years ended June 30, 2016 and 2015.

## 12. Other Post-Employment Benefits (OPEB)

The Governmental Accounting Standards Board (GASB) established standards for the measurement, recognition, and reporting of other post-employment benefits (OPEB). OPEB includes post-employment benefits other than pension, which, for KUB, is presently limited to post-employment health care. GASB Statement No. 45 (Statement No. 45) requires the recognition of the accrued OPEB liability for the respective year, plus the disclosure of the total unfunded liability.

KUB currently provides post-employment health care benefits to 585 former employees and 593 covered dependents. The cost of coverage is shared with retirees and beneficiaries. KUB recognizes its share of the cost of post-employment health care benefits as an expense as claims are paid.

KUB amended its Group Health Plan in 1999, eliminating post-employment health care benefits for all employees hired on or after July 1, 1999. As of June 30, 2016, 356 active employees were eligible for individual and dependent coverage at separation. To qualify, the employee must meet the Rule of 80 (age plus years of service) with a minimum of 20 years of service, and be enrolled in medical coverage on their last day.

In May 2006, the State of Tennessee adopted Tennessee Code Annotated, Title 8, Chapter 50, Part 12 authorizing governmental entities to establish Trusts for the purpose of pre-funding their respective OPEB liabilities.

Although Statement No. 45 does not require pre-funding of the liability, KUB has determined that it is in the long-term economic interest of KUB and its ratepayers to establish a Trust to pre-fund KUB's OPEB liability.

Knoxville Utilities Board Other Post-Employment Benefits Trust (the "Trust") is a single-employer Other Post-Employment Benefits Plan established by the Knoxville Utilities Board (KUB) Board of Commissioners through Resolution No. 1168, as amended, dated October 18, 2007. The applicable documentation was submitted to the State Funding Board and, in December 2007, the State Funding Board approved the Trust. The Trust was also approved by the Internal Revenue Service in June 2008. KUB administers the Trust through a Board of Trustees consisting of seven KUB employees that are appointed by KUB's President and CEO. Any amendments to the Trust involving costs not approved in the operating budget must be approved by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Trust may be approved by KUB's President and CEO upon 60 days notification to the KUB Audit and Finance Committee. The investment of all deposits to the Trust is governed by an Investment Policy, which was adopted by the KUB Board and approved by the State Funding Board.

KUB makes annual contributions to the Trust at an actuarially determined rate. Based on the date of retirement, certain retired plan members are required to contribute specified amounts monthly to maintain health insurance. Those who retired prior to July 1983 have no required monthly premiums for themselves or dependents. The retirees, or their surviving dependents, who retired between August 1983 and January 1998 are required to pay $250 per month for pre-Medicare family health insurance. For individuals who retired after January 1998, the required monthly premium for pre-Medicare health insurance is $250 for single coverage and $500 for family coverage. There is currently no premium for Medicare eligible retirees or dependents.

An actuarial valuation of KUB's Postretirement Benefit Plan was performed for the Trust as of January 1, 2014 for fiscal year June 30, 2015 and January 1, 2015 for fiscal year June 30, 2016. The following table presents the OPEB cost for the year, the amount contributed to the Trust, and changes in the net OPEB obligation for fiscal year ending June 30:

| | **2016** | **2015** |
|---|---|---|
| **a)** Net OPEB Obligation/(Asset) at beginning of fiscal year | $ (174,410) | $ (177,322) |
| **b)** Annual Required Contribution (ARC) | 953,221 | 3,497,372 |
| **c)** Interest on Net OPEB Obligation/(Asset) | (13,081) | (14,186) |
| **d)** Adjustment to ARC | (16,427) | (17,098) |
| **e)** Annual OPEB Cost **(b+c-d)** | 956,567 | 3,500,284 |
| **f)** Employer Contributions | 953,221 | 3,497,372 |
| **g)** Net OPEB Obligation/(Asset) at end of fiscal year **(a+e-f)** | $ (171,064) | $ (174,410) |

KUB's annual OPEB cost, the percentage of annual OPEB cost contributed to the Trust, and the net OPEB obligation for fiscal year 2016 and the two preceding years were as follows:

**Schedule of Employer Contributions**

| Actuarial Valuation Date | Employer Fiscal Year | Annual Required Contribution | Fiscal Year Actual Contribution | Percentage Contributed | Net OPEB Obligation |
|---|---|---|---|---|---|
| 1/1/2012 | 6/30/2014 | 3,327,412 | 4,057,091 | 121.93% | (177,322) |
| 1/1/2013 | 6/30/2015 | 3,497,372 | 3,497,372 | 100.00% | (174,410) |
| 1/1/2014 | 6/30/2016 | 953,221 | 953,221 | 100.00% | (171,064) |

Total contributions to the OPEB Trust for the fiscal year ended June 30, 2016 were $953,221 (Division's share $209,708). The contribution to the Trust was consistent with the annual required contribution, as determined by the Postretirement Benefit Plan's actuarial valuation as of January 1, 2014, which was $953,211 (Division's share $209,708). As of June 30, 2016, the employer's OPEB obligation has been exceeded by $171,064 (Division's share $37,634).

The annual required contribution for the fiscal year ending June 30, 2017, as determined by the Plan's actuarial valuation as of January 1, 2015 is $620,015 (Division's share $136,403).

The actuarial valuation for the Plan as of January 1, 2016 has been completed. The valuation determined that the Plan's actuarial accrued liability was $45,118,624 (Division's share $9,926,097). The actuarial value of the Plan's assets was $48,510,796 (Division's share $10,672,375). As a result, the Plan's unfunded actuarial accrued liability was ($3,392,172) (Division's share ($746,278)). The Plan's actuarial funded ratio was 108 percent. Due to the future implementation of GASB 75, the contributions made for fiscal year ending June 30, 2018 will be the actuarially determined contribution instead of the annual required contribution and the actuarial cost method used to determine the contributions will change from the projected unit credit cost method to the entry age normal cost method. The actuarially determined contribution for fiscal year ending June 30, 2018 will be zero. See Required Supplementary Information for OPEB Schedule of Funding Progress.

The actuarial valuations dated January 1, 2015 and 2016, which determine the annual required contribution and actuarially determined contribution for future fiscal years ending June 30, 2017 and 2018, have not been audited.

Actuarial valuations involve estimates of the value of reported amounts and assumptions about the probability of events far into the future, and actuarially determined amounts are subject to continual revision as actual results are compared to past expectations and new estimates are made about the future.

The required schedule of funding progress immediately following the notes to the financial statements presents multi-year trend information about whether the actuarial value of Trust assets is increasing or decreasing over time relative to the actuarial accrued liability for benefits.

Calculations are based on the benefits provided under the terms of the substantive plan in effect at the time of each valuation and on the pattern of sharing of costs between the employer and plan members to that point.

Actuarial calculations reflect a long-term perspective. Consistent with that perspective, actuarial methods and assumptions used include techniques that are designed to reduce short-term volatility in actuarial accrued liabilities and the actuarial value of assets.

Identification of actuarial methods and significant assumptions used to determine the annual required contribution for the fiscal year ending June 30, 2016:

| | |
|---|---|
| I. Actuarial cost method | Projected unit credit cost method |
| II. Actuarial value of assets | Smoothed market value with phase-in method using a smoothing period of 5 years |
| III. Investment return | 7.5%, based on the expected portfolio return |
| Projected salary increases | N/A |
| Healthcare cost Trend: | |
| Medicare | 2014 - 2030+, ranging from 4.5% to 7.45% |
| Non-Medicare | 2014 - 2030+, ranging from 4.5% to 8.75% |
| IV. Amortization method | Level dollar closed (30-year) |
| Remaining amortization period | 22 years |

The Trust issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017.

## 13. Related Party Transactions

The Division, in the normal course of operations, is involved in transactions with the City of Knoxville and with other divisions of KUB. Such transactions for the years ended June 30, 2016 and 2015 are summarized as follows:

| | 2016 | 2015 |
|---|---|---|
| City of Knoxville | | |
| Amounts billed by the Division for utilities and related services | $ 1,111,067 | $ 1,013,354 |
| Payments by the Division in lieu of property tax | 3,789,989 | 3,575,461 |
| Payments by the Division for services provided | 1,466,961 | 1,147,555 |
| Other divisions of KUB | | |
| Amounts billed to other divisions for utilities and related services provided | 290,250 | 285,944 |
| Interdivisional rental expense | 306,304 | 306,769 |
| Interdivisional rental income | 114,197 | 96,075 |
| Amounts billed to the Division by other divisions for utilities services provided | 2,911,300 | 3,002,595 |

With respect to these transactions, accounts receivable from the City of Knoxville included in the balance sheet at year end were:

| | 2016 | 2015 |
|---|---|---|
| Accounts receivable | $ 28,514 | $ 29,056 |

## 14. Other Commitments and Contingencies

In the normal course of business, there are various lawsuits pending against KUB. Management has reviewed these lawsuits with counsel, who is vigorously defending KUB's position and is of the opinion that the ultimate disposition of these matters will not have a material adverse effect on KUB's financial position, results of operations or cash flows.

In February 2005, a Consent Decree was entered into federal court regarding the operation of KUB’s wastewater system. Under the terms of the Consent Decree, the remediation of identified sanitary sewer overflows (SSOs) on KUB’s wastewater system had to be completed by June 30, 2016. KUB completed all the requirements of the Consent Decree for the collection system two years in advance of the deadline.

The Consent Decree also required KUB to perform an evaluation of the wet weather performance and capacity of its wastewater treatment plants. In July 2007, KUB submitted a Composite Correction Plan (CCP) for its wastewater treatment plants to EPA for review. The development and filing of the CCP was a requirement of the federal order of February 2005. The CCP includes recommended improvements to KUB’s Kuwahee and Fourth Creek treatment plants to address wet weather capacity issues noted in prior assessments. The EPA approved the CCP in January 2009 including a recommended schedule of plant improvements that extends beyond the expiration date of the original Consent Decree. An amendment to the Consent Decree incorporating and establishing this schedule was agreed to by all parties and was entered on June 23, 2009. The purpose of the Amendment is to allow KUB to complete a portion of work outlined in the CCP after the Consent Decree deadline of June 30, 2016. The CCP provides for a biologically enhanced high-rate clarification (the BEHRC) secondary treatment system to be installed at the Fourth Creek treatment plant by June 30, 2018 and at the Kuwahee treatment plant by June 30, 2021. The total cost of such improvements is estimated to be approximately $120 million.

KUB's funding plan for the Consent Decree includes long-term bonds and a series of rate increases phased in over the term of the order. Bond proceeds fund all types of wastewater capital projects, the majority of which are related to the Consent Decree. As of June 30, 2016, the Wastewater Division had issued $485 million in bonds to fund system capital improvements since the inception of the Consent Decree. The Board previously approved two 50 percent rate increases, which went into effect in April 2005 and January 2007. The Board also approved an 8 percent rate increase, which was effective in September 2008, two 12 percent rate increases, which were effective in April 2011 and October 2012, and three 6 percent rate increases effective October 2014, October 2015 and October 2016. KUB anticipates additional bond issues and rate increases over the next decade to help fund wastewater capital improvements.

KUB successfully completed the first cycle of Maintenance Operation Management (MOM) requirements one year before the deadline by inspecting 99.5% of manholes and gravity mains, smoke testing 99.9% of gravity mains, performing required inspections of pump stations and the related force mains, and completing all Corrective Action Plan/Engineering Report (CAP/ER) projects. KUB initiated the second MOM cycle that continues to focus on the prevention of SSOs. As part of the Century II initiative, formally known as the PACE10 program, KUB has installed storage tanks providing 34 million gallons of wastewater storage to control wet weather overflows and rehabilitated or replaced approximately 334.9 miles of collection system pipe. KUB also continues to maintain a proactive operations and maintenance plan for the wastewater collection system including inspection, grease control, and private lateral enforcement. The result of the Pace10/Century II initiative has been an 82 percent reduction in SSOs.

As of June 30, 2016, the Wastewater Division had completed its twelfth full year under the Consent Decree, spending $529.5 million on capital investments to meet Consent Decree requirements. During fiscal year 2016, the Wastewater Division incurred $37.3 million in total expenditures related to Consent Decree requirements, including $3.3 million for operating costs and $34 million in capital improvements which included the rehabilitation or replacement of 28 miles of wastewater main. During the fiscal year, $26.5 million was spent on sewer mini-basin rehabilitation and replacement. Trunk line rehabilitation and replacement accounted for $2 million of capital expenditures, while pump station improvements accounted for $4.6 million.

# Knoxville Utilities Board Wastewater Division
## Required Supplementary Information – Schedule of Funding Progress
## June 30, 2016
## (Unaudited)

**Other Post-Employment Benefits (OPEB)**

| | Valuation Date | Actuarial Value of Assets (a) | Actuarial Accrued Liability (AAL) (b) | Unfunded Actuarial Accrued Liability (UAAL) (b-a) | Funded Ratio (a)/(b) | Covered Payroll (c) | UAAL as a Percentage of Covered Payroll [(b)-(a)]/(c) |
|---|---|---|---|---|---|---|---|
| | January 1, 2008 | $ - | $ 108,329,141 | $ 108,329,141 | 0% | $ 31,234,509 | 346.8% |
| | January 1, 2009 | 14,593,487 | 100,726,738 | 86,133,251 | 14% | 31,846,091 | 270.5% |
| | January 1, 2010 | 21,275,643 | 58,475,364 | 37,199,721 | 36% | 30,069,028 | 123.7% |
| | January 1, 2011 | 40,749,815 | 64,289,254 | 23,539,439 | 63% | 28,878,791 | 81.5% |
| | January 1, 2012 | 37,907,357 | 61,603,466 | 23,696,109 | 62% | 28,269,123 | 83.8% |
| | January 1, 2013 | 38,571,803 | 63,341,531 | 24,769,728 | 61% | 27,566,340 | 89.9% |
| | January 1, 2014 | 43,409,955 | 46,889,808 | 3,479,853 | 93% | 26,724,154 | 13.0% |
| * | January 1, 2015 | 47,705,478 | 47,745,640 | 40,162 | 100% | 25,816,884 | 0.2% |
| * | January 1, 2016 | 48,510,796 | 45,118,624 | (3,392,172) | 108% | 25,243,127 | (13.4%) |

* The actuarial valuations dated January 1, 2015 and 2016, which determine the annual required contribution for future fiscal years ending June 30, 2017 and 2018, have not been audited.

# Knoxville Utilities Board Wastewater Division

## Required Supplementary Information – Schedule of Changes in Net Pension Liability and Related Ratios

## June 30, 2016

## (Unaudited)

| | Year ended December 31 | |
|---|---|---|
| | **2015** | **2014** |
| **Total pension liability** | | |
| Service cost | $ 4,157,062 | $ 4,092,808 |
| Interest | 14,812,784 | 14,698,657 |
| Differences between expected and actual experience | (1,890,334) | - |
| Benefit payments, including refunds of member contributions | (15,350,926) | (15,533,167) |
| **Net change in total pension liability** | 1,728,586 | 3,258,298 |
| **Total pension liability - beginning** | 202,773,764 | 199,515,466 |
| **Total pension liability - ending (a)** | $ 204,502,350 | $ 202,773,764 |
| **Plan fiduciary net position** | | |
| Contributions - employer | $ 5,991,887 | $ 5,908,541 |
| Contributions - participants | 487,546 | 475,854 |
| Net investment income | (95,430) | 22,292,369 |
| Other additions | 30,879 | 29,733 |
| Benefit payments, including refunds of member contributions | (15,274,926) | (15,405,167) |
| Administrative expense | (397,160) | (378,085) |
| Death benefits | (76,000) | (128,000) |
| **Net change in plan fiduciary net position**** | (9,333,204) | 12,795,245 |
| **Plan fiduciary net position - beginning**** | 208,795,394 | 196,000,149 |
| **Plan fiduciary net position - ending (b)**** | $ 199,462,190 | $ 208,795,394 |
| **Plan's net pension liability - ending (a) - (b)** | $ 5,040,160 | $ (6,021,630) |
| Plan fiduciary net position as a percentage of the total pension liability | 97.54% | 102.97% |
| Covered-employee payroll | $ 50,679,585 | $ 50,246,074 |
| Plan's net pension liability as a percentage of covered-employee payroll | 9.95% | (11.98%) |

**Notes to Schedule:**

* Information not reflected prior to 2014 due to changes in actuary methodologies required under GASB 67, which was implemented in 2014.

** Excludes amounts related to 401(k) matching contributions.

# Knoxville Utilities Board Wastewater Division
## Required Supplementary Information – Schedule of Employer Pension Contributions
## June 30, 2016
## (Unaudited)

| | Year ended December 31<br>2015 | <br>2014 |
|---|---|---|
| Annual required contribution | $ 5,991,887 | $ 5,908,541 |
| Contribution in relation to the annual required contribution | 5,991,887 | 5,908,541 |
| Contribution deficiency | $ - | $ - |
| Covered-employee payroll | $ 50,679,585 | $ 50,246,074 |
| Contributions as a percentage of covered-employee payroll | 11.82% | 11.76% |

**Notes to Schedule:**

| | |
|---|---|
| Valuation Dates: | January 1, 2013 and January 1, 2014 |
| Timing: | Actuarially determined contributions for a plan year are based upon 50% of the amounts determined at the actuarial valuations for each of the two prior plan years. |

**Key methods and assumptions used to determine contribution rates:**

| | |
|---|---|
| Actuarial cost method: | Individual entry age |
| Asset valuation method: | 5-year smoothed market |
| Amortization method: | Level dollar closed period with 28 years remaining as of January 1, 2013 and 27 years remaining as of January 1, 2014. |
| Discount rate: | 8% at January 1, 2013 and 7.5% at January 1, 2014 |
| Salary increases: | From 2.58% to 7.92% for January 1, 2013 and from 2.8% to 5.15% for January 1, 2014, based on years of service |
| Mortality: | Sex distinct RP-2000 Combined Mortality projected to 2018 using Scale AA for the Janaury 1, 2013 valuation. Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA for the January 1, 2014 valuation. |
| Inflation: | 2.8 percent |

* Schedule of Employer Contribution information is not reflected prior to 2014 due to changes in actuary methodologies required under GASB 67, which was implemented 2014.

# Knoxville Utilities Board Wastewater Division

## Supplemental Information - Schedule of Insurance in Force

**June 30, 2016**

**(Unaudited)** **Schedule 1**

**Insurance coverage is for KUB as a consolidated entity.**

### Crime

Covers losses resulting from employee dishonesty, robbery, burglary, and computer fraud. Limits of coverage - $5,000,000; $250,000 retention.

### Directors' and Officers' Liability Insurance

Covers KUB personnel appropriately authorized to make decisions on behalf of KUB (including but not limited to Commissioners, President and CEO, Senior Vice Presidents, Vice Presidents, and Directors) for wrongful acts. Limits of coverage - $20,000,000; $1,000,000 corporate deductible, $0 individual deductible.

### Employment Practices Liability

Coverage for costs related to actual or alleged employment practices violations for amounts exceeding specified amount ($500,000). Limits of coverage - $10,000,000.

### Fiduciary

Covers losses resulting from wrongful acts related to KUB's Pension, 401(k), and OPEB Trust funds. Limits of coverage - $10,000,000; $150,000 deductible.

### Pollution Legal Liability

New conditions coverage for losses exceeding specified amount per occurrence ($1,000,000). Limits of coverage - $20,000,000.

### Property Insurance

This coverage provides protection of KUB's property for fire, extended coverage, vandalism and malicious mischief, and coverage on boilers and machinery. Also included are flood and earthquake damage and mechanical failure. Limits of coverage - $250,000,000 per occurrence (subject to certain sublimits); $2,500,000 deductible per occurrence.

### Travel Accident

Covers losses related to employees' business travel. Limits of coverage - $1,500,000 aggregate.

### Excess Insurance for General Liability

As a government entity, KUB's liability is limited under the Tennessee Governmental Tort Liability Act (TCA §29-20-403). KUB is self-insured for up to the first $700,000 of any accident and has insurance of $1,000,000 above this retention.

### Excess Insurance for Workers' Compensation

Covers all losses exceeding specified amount per occurrence ($1,000,000). Limits of coverage - Statutory; stop loss coverage applies for aggregate losses over $5,000,000.

### Employee Health Plan Stop Loss Coverage

KUB's employee health plan is self-funded. KUB has purchased stop loss insurance, which covers KUB's exposure to annual expenses in excess of $400,000 per individual participant.

# Knoxville Utilities Board Wastewater Division
## Supplemental Information – Schedule of Debt Maturities by Fiscal Year
## June 30, 2016
## (Unaudited)

## Schedule 2

Continued on Next Page

| | 2005B | | 2008 | | 2010 | | | 2010C | | | 2012A | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FY | Principal | Interest | Principal | Interest | Principal | Interest | Rebate* | Principal | Interest | Rebate* | Principal | Interest |
| 16-17 | 1,470,000 | 620,185 | 4,600,000 | 327,500 | | 1,910,000 | 668,500 | 1,400,000 | 3,634,545 | 1,272,090 | 840,000 | 551,425 |
| 17-18 | 1,525,000 | 561,385 | 1,950,000 | 97,500 | | 1,910,000 | 668,500 | 1,500,000 | 3,584,425 | 1,254,548 | 985,000 | 528,325 |
| 18-19 | 1,595,000 | 498,860 | | | | 1,910,000 | 668,500 | 1,550,000 | 3,525,625 | 1,233,968 | 970,000 | 498,775 |
| 19-20 | 1,655,000 | 433,066 | | | | 1,910,000 | 668,500 | 1,600,000 | 3,460,990 | 1,211,346 | 950,000 | 467,250 |
| 20-21 | 1,725,000 | 363,556 | | | | 1,910,000 | 668,500 | 1,650,000 | 3,394,270 | 1,187,994 | 1,085,000 | 434,000 |
| 21-22 | 1,800,000 | 290,244 | | | | 1,910,000 | 668,500 | 1,700,000 | 3,325,465 | 1,163,912 | 1,175,000 | 390,600 |
| 22-23 | 1,880,000 | 212,844 | | | | 1,910,000 | 668,500 | 1,750,000 | 3,246,925 | 1,136,424 | 1,165,000 | 343,600 |
| 23-24 | 695,000 | 130,594 | | | | 1,910,000 | 668,500 | 1,850,000 | 3,162,575 | 1,106,902 | 1,250,000 | 297,000 |
| 24-25 | 730,000 | 100,188 | | | | 1,910,000 | 668,500 | 1,950,000 | 3,065,450 | 1,072,908 | 1,140,000 | 247,000 |
| 25-26 | 765,000 | 68,250 | | | | 1,910,000 | 668,500 | 2,375,000 | 2,961,125 | 1,036,394 | 1,190,000 | 201,400 |
| 26-27 | 795,000 | 34,781 | | | | 1,910,000 | 668,500 | 2,500,000 | 2,830,738 | 990,758 | 1,235,000 | 153,800 |
| 27-28 | | | | | | 1,910,000 | 668,500 | 2,600,000 | 2,688,488 | 940,970 | 1,280,000 | 104,400 |
| 28-29 | | | | | | 1,910,000 | 668,500 | 2,725,000 | 2,536,388 | 887,736 | 1,330,000 | 53,200 |
| 29-30 | | | | | | 1,910,000 | 668,500 | 2,850,000 | 2,376,975 | 831,942 | | |
| 30-31 | | | | | | 1,910,000 | 668,500 | 2,975,000 | 2,210,250 | 773,588 | | |
| 31-32 | | | | | | 1,910,000 | 668,500 | 3,100,000 | 2,031,750 | 711,112 | | |
| 32-33 | | | | | | 1,910,000 | 668,500 | 3,250,000 | 1,845,750 | 646,012 | | |
| 33-34 | | | | | | 1,910,000 | 668,500 | 3,375,000 | 1,650,750 | 577,762 | | |
| 34-35 | | | | | | 1,910,000 | 668,500 | 3,550,000 | 1,448,250 | 506,882 | | |
| 35-36 | | | | | | 1,910,000 | 668,500 | 3,700,000 | 1,235,250 | 432,338 | | |
| 36-37 | | | | | | 1,910,000 | 668,500 | 3,875,000 | 1,009,550 | 353,342 | | |
| 37-38 | | | | | | 1,910,000 | 668,500 | 4,050,000 | 773,175 | 270,612 | | |
| 38-39 | | | | | | 1,910,000 | 668,500 | 4,225,000 | 526,125 | 184,144 | | |
| 39-40 | | | | | | 1,910,000 | 668,500 | 4,400,000 | 268,400 | 93,940 | | |
| 40-41 | | | | | | 1,910,000 | 668,500 | | | | | |
| 41-42 | | | | | | 1,910,000 | 668,500 | | | | | |
| 42-43 | | | | | 10,000,000 | 1,910,000 | 668,500 | | | | | |
| 43-44 | | | | | 10,000,000 | 1,260,000 | 441,000 | | | | | |
| 44-45 | | | | | 10,000,000 | 630,000 | 220,500 | | | | | |
| 45-46 | | | | | | | | | | | | |
| 46-47 | | | | | | | | | | | | |
| 47-48 | | | | | | | | | | | | |
| 48-49 | | | | | | | | | | | | |
| 49-50 | | | | | | | | | | | | |
| Total | $ 14,635,000 | $ 3,313,953 | $ 6,550,000 | $ 425,000 | $ 30,000,000 | $ 53,460,000 | $ 18,711,000 | $ 64,500,000 | $ 56,793,234 | $ 19,877,624 | $ 14,595,000 | $ 4,270,775 |

*Series 2010 and 2010c bonds were issued as federally taxable Build America Bonds. KUB will receive a 35 percent interest rebate payment from the United States Government for each interest payment. Effective October 1, 2015 these bonds became subject to a 6.8% reduction in rebate payment amounts due to the United States Government sequestration. The sequestration is effective until intervening Congressional action, at which time the sequestration rate is subject to change.

# Knoxville Utilities Board Wastewater Division
## Supplemental Information – Schedule of Debt Maturities by Fiscal Year
## June 30, 2016
## (Unaudited)

**Schedule 2**

**Continued from Previous Page**

| | 2012B | | 2013A | | 2014A | | 2015A | | 2015B | | TOTALS | | Grand Total (P + I) | Grand Total (Less Rebates) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FY | Principal | Interest | Principal | Interest | Principal | Interest | Principal | Interest | Principal | Interest | Principal | Interest | | |
| 16-17 | 975,000 | 1,916,563 | 620,000 | 3,551,100 | 450,000 | 1,086,119 | 125,000 | 5,115,762 | 450,000 | 1,141,938 | 10,930,000 | 19,855,137 | 30,785,137 | 28,844,547 |
| 17-18 | 1,000,000 | 1,904,375 | 635,000 | 3,538,700 | 475,000 | 1,077,119 | 2,835,000 | 5,109,512 | 475,000 | 1,128,438 | 11,380,000 | 19,439,779 | 30,819,779 | 28,896,731 |
| 18-19 | 1,050,000 | 1,891,871 | 660,000 | 3,513,300 | 475,000 | 1,058,119 | 5,010,000 | 4,967,762 | 500,000 | 1,104,688 | 11,810,000 | 18,969,000 | 30,779,000 | 28,876,532 |
| 19-20 | 1,100,000 | 1,878,750 | 685,000 | 3,486,900 | 500,000 | 1,039,119 | 5,305,000 | 4,717,262 | 525,000 | 1,079,688 | 12,320,000 | 18,473,025 | 30,793,025 | 28,913,179 |
| 20-21 | 1,150,000 | 1,862,250 | 710,000 | 3,459,500 | 525,000 | 1,019,119 | 5,460,000 | 4,452,012 | 525,000 | 1,063,938 | 12,830,000 | 17,958,645 | 30,788,645 | 28,932,151 |
| 21-22 | 1,200,000 | 1,804,750 | 740,000 | 3,431,100 | 550,000 | 998,119 | 5,675,000 | 4,179,012 | 550,000 | 1,042,938 | 13,390,000 | 17,372,228 | 30,762,228 | 28,929,816 |
| 22-23 | 1,250,000 | 1,744,750 | 770,000 | 3,401,500 | 575,000 | 981,619 | 6,005,000 | 3,895,262 | 575,000 | 1,020,936 | 13,970,000 | 16,757,436 | 30,727,436 | 28,922,512 |
| 23-24 | 1,300,000 | 1,694,750 | 4,600,000 | 3,370,700 | 600,000 | 964,369 | 3,720,000 | 3,595,012 | 600,000 | 997,938 | 14,615,000 | 16,122,938 | 30,737,938 | 28,962,536 |
| 24-25 | 1,375,000 | 1,642,750 | 4,900,000 | 3,232,700 | 625,000 | 946,369 | 3,785,000 | 3,483,412 | 625,000 | 973,938 | 15,130,000 | 15,601,807 | 30,731,807 | 28,990,399 |
| 25-26 | 1,425,000 | 1,587,750 | 5,040,000 | 3,085,700 | 650,000 | 927,619 | 1,425,000 | 3,369,864 | 650,000 | 955,188 | 13,520,000 | 15,066,896 | 28,586,896 | 26,882,002 |
| 26-27 | 1,500,000 | 1,530,750 | 5,200,000 | 2,934,500 | 700,000 | 908,119 | 1,490,000 | 3,323,550 | 675,000 | 935,688 | 14,095,000 | 14,561,926 | 28,656,926 | 26,997,668 |
| 27-28 | 1,575,000 | 1,470,750 | 6,305,000 | 2,778,500 | 725,000 | 880,119 | 1,405,000 | 3,271,400 | 700,000 | 915,438 | 14,590,000 | 14,019,095 | 28,609,095 | 26,999,625 |
| 28-29 | 1,625,000 | 1,423,500 | 6,535,000 | 2,573,588 | 750,000 | 851,119 | 1,450,000 | 3,222,226 | 725,000 | 887,438 | 15,140,000 | 13,457,459 | 28,597,459 | 27,041,223 |
| 29-30 | 1,700,000 | 1,374,750 | 8,315,000 | 2,377,538 | 775,000 | 821,119 | 1,455,000 | 3,178,726 | 775,000 | 858,438 | 15,870,000 | 12,897,546 | 28,767,546 | 27,267,104 |
| 30-31 | 1,775,000 | 1,323,750 | 8,550,000 | 2,128,088 | 825,000 | 790,119 | 1,515,000 | 3,135,076 | 800,000 | 827,436 | 16,440,000 | 12,324,719 | 28,764,719 | 27,322,631 |
| 31-32 | 1,875,000 | 1,270,500 | 8,840,000 | 1,871,588 | 850,000 | 757,119 | 1,520,000 | 3,089,626 | 825,000 | 795,436 | 17,010,000 | 11,726,019 | 28,736,019 | 27,356,407 |
| 32-33 | 1,950,000 | 1,214,250 | 9,120,000 | 1,606,388 | 900,000 | 723,119 | 1,580,000 | 3,042,125 | 850,000 | 762,436 | 17,650,000 | 11,104,068 | 28,754,068 | 27,439,556 |
| 33-34 | 2,025,000 | 1,155,750 | 9,390,000 | 1,332,788 | 925,000 | 687,119 | 1,635,000 | 2,992,750 | 900,000 | 733,750 | 18,250,000 | 10,462,907 | 28,712,907 | 27,466,645 |
| 34-35 | 2,125,000 | 1,095,000 | 9,705,000 | 1,015,875 | 975,000 | 650,119 | 1,690,000 | 2,939,612 | 925,000 | 703,375 | 18,970,000 | 9,762,231 | 28,732,231 | 27,556,849 |
| 35-36 | 2,225,000 | 1,031,250 | 10,025,000 | 688,331 | 1,025,000 | 611,119 | 1,750,000 | 2,884,688 | 975,000 | 671,000 | 19,700,000 | 9,031,638 | 28,731,638 | 27,630,800 |
| 36-37 | 2,325,000 | 964,500 | 10,370,000 | 349,988 | 1,075,000 | 570,119 | 1,825,000 | 2,827,812 | 1,000,000 | 632,000 | 20,470,000 | 8,263,969 | 28,733,969 | 27,712,127 |
| 37-38 | 2,425,000 | 894,750 | | | 500,000 | 527,119 | 13,420,000 | 2,768,500 | 500,000 | 592,000 | 20,895,000 | 7,465,544 | 28,360,544 | 27,421,432 |
| 38-39 | 2,550,000 | 822,000 | | | 500,000 | 507,119 | 13,895,000 | 2,298,800 | 500,000 | 572,000 | 21,670,000 | 6,636,044 | 28,306,044 | 27,453,400 |
| 39-40 | 2,650,000 | 745,500 | | | 500,000 | 488,994 | 14,480,000 | 1,743,000 | 500,000 | 552,000 | 22,530,000 | 5,707,894 | 28,237,894 | 27,475,454 |
| 40-41 | 2,775,000 | 666,000 | | | 1,175,000 | 470,869 | 15,130,000 | 1,236,200 | 1,100,000 | 532,000 | 20,180,000 | 4,815,069 | 24,995,069 | 24,326,569 |
| 41-42 | 2,900,000 | 582,750 | | | 1,225,000 | 428,275 | 15,775,000 | 631,000 | 1,150,000 | 488,000 | 21,050,000 | 4,040,025 | 25,090,025 | 24,421,525 |
| 42-43 | 3,025,000 | 495,750 | | | 1,300,000 | 382,950 | | | 1,200,000 | 442,000 | 15,525,000 | 3,230,700 | 18,755,700 | 18,087,200 |
| 43-44 | 3,150,000 | 405,000 | | | 1,350,000 | 334,850 | | | 1,250,000 | 394,000 | 15,750,000 | 2,393,850 | 18,143,850 | 17,702,850 |
| 44-45 | 3,300,000 | 310,500 | | | 1,400,000 | 284,900 | | | 1,300,000 | 344,000 | 16,000,000 | 1,569,400 | 17,569,400 | 17,348,900 |
| 45-46 | 3,450,000 | 211,500 | | | 1,475,000 | 233,100 | | | 1,350,000 | 292,000 | 6,275,000 | 736,600 | 7,011,600 | 7,011,600 |
| 46-47 | 3,600,000 | 108,000 | | | 1,550,000 | 178,525 | | | 1,400,000 | 238,000 | 6,550,000 | 524,525 | 7,074,525 | 7,074,525 |
| 47-48 | | | | | 1,600,000 | 121,175 | | | 1,450,000 | 182,000 | 3,050,000 | 303,175 | 3,353,175 | 3,353,175 |
| 48-49 | | | | | 1,675,000 | 61,975 | | | 1,525,000 | 124,000 | 3,200,000 | 185,975 | 3,385,975 | 3,385,975 |
| 49-50 | | | | | | | | | 1,575,000 | 63,000 | 1,575,000 | 63,000 | 1,638,000 | 1,638,000 |
| Total | $ 62,350,000 | $ 37,025,059 | $ 111,715,000 | $ 53,728,372 | $ 29,200,000 | $ 22,366,850 | $ 129,360,000 | $ 85,469,963 | $ 29,425,000 | $ 24,047,063 | $ 492,330,000 | $ 340,900,269 | $ 833,230,269 | $ 794,641,645 |

*Series 2010 and 2010c bonds were issued as federally taxable Build America Bonds. KUB will receive a 35 percent interest rebate payment from the United States Government for each interest payment. Effective October 1, 2015 these bonds became subject to a 6.8% reduction in rebate payment amounts due to the United States Government sequestration. The sequestration is effective until intervening Congressional action, at which time the sequestration rate is subject to change.

# Knoxville Utilities Board Wastewater Division
## Supplemental Information – Schedule of Current Rates in Force
## June 30, 2016
## (Unaudited)

## Schedule 3

| Rate Class | Base Charge | Number of Customers |
|---|---|---|
| Residential<br>Inside City rate | For wastewater service furnished to premises entirely within the corporate limits of the City of Knoxville: | 54,767 |

**Commodity Charge**

| | | |
|---|---|---|
| First | 2 | 100 Cubic Feet Per Month at $0.70 Per 100 Cubic Feet |
| Over | 2 | 100 Cubic Feet Per Month at $8.70 Per 100 Cubic Feet |

**Additional Monthly Customer Charge**

| | |
|---|---|
| 5/8" meter | $ 26.00 |
| 1" meter | 41.00 |
| 1 1/2" meter | 53.00 |
| 2" meter | 73.00 |

| Rate Class | Base Charge | Number of Customers |
|---|---|---|
| Non-Residential<br>Inside City rate | For wastewater service furnished to premises entirely within the corporate limits of the City of Knoxville: | 8,441 |

**Commodity Charge**

| | | |
|---|---|---|
| First | 2 | 100 Cubic Feet Per Month at $0.80 Per 100 Cubic Feet |
| Next | 8 | 100 Cubic Feet Per Month at $10.45 Per 100 Cubic Feet |
| Next | 90 | 100 Cubic Feet Per Month at $9.35 Per 100 Cubic Feet |
| Next | 300 | 100 Cubic Feet Per Month at $8.00 Per 100 Cubic Feet |
| Next | 4,600 | 100 Cubic Feet Per Month at $6.50 Per 100 Cubic Feet |
| Next | 5,000 | 100 Cubic Feet Per Month at $4.30 Per 100 Cubic Feet |

**Additional Monthly Customer Charge**

| | |
|---|---|
| 5/8" meter | $ 26.00 |
| 1" meter | 41.00 |
| 1 1/2" meter | 53.00 |
| 2" meter | 73.00 |
| 3" meter | 130.00 |
| 4" meter | 212.00 |
| 6" meter | 453.00 |
| 8" meter | 787.00 |
| 10" meter | 1,193.00 |
| 12" meter | 1,757.00 |

# Knoxville Utilities Board Wastewater Division
## Supplemental Information – Schedule of Current Rates in Force
## June 30, 2016
## (Unaudited)
## Schedule 3

| Rate Class | Base Charge | Number of Customers |
|---|---|---|
| Residential<br>Outside City rate | For wastewater service furnished to premises entirely or partly outside the corporate limits of the City of Knoxville: | 7,670 |

**Commodity Charge**

|  |  |  |
|---|---|---|
| First | 2 | 100 Cubic Feet Per Month at $0.85 Per 100 Cubic Feet |
| Over | 2 | 100 Cubic Feet Per Month at $9.30 Per 100 Cubic Feet |

**Additional Monthly Customer Charge**

|  |  |
|---|---|
| 5/8" meter | $ 30.00 |
| 1" meter | 44.00 |
| 1 1/2" meter | 61.00 |
| 2" meter | 81.00 |

| Rate Class | Base Charge | Number of Customers |
|---|---|---|
| Non-Residential<br>Outside City rate | For wastewater service furnished to premises entirely or partly outside the corporate limits of the City of Knoxville: | 507 |

**Commodity Charge**

|  |  |  |
|---|---|---|
| First | 2 | 100 Cubic Feet Per Month at $0.95 Per 100 Cubic Feet |
| Next | 8 | 100 Cubic Feet Per Month at $11.55 Per 100 Cubic Feet |
| Next | 90 | 100 Cubic Feet Per Month at $10.25 Per 100 Cubic Feet |
| Next | 300 | 100 Cubic Feet Per Month at $8.75 Per 100 Cubic Feet |
| Next | 4,600 | 100 Cubic Feet Per Month at $7.30 Per 100 Cubic Feet |
| Next | 5,000 | 100 Cubic Feet Per Month at $4.80 Per 100 Cubic Feet |

# Knoxville Utilities Board Wastewater Division

## Supplemental Information – Schedule of Current Rates in Force

## June 30, 2016

## (Unaudited)

## Schedule 3

**Additional Monthly Customer Charge**

| | | |
|---|---|---|
| 5/8" meter | $ | 30.00 |
| 1" meter | | 44.00 |
| 1 1/2" meter | | 61.00 |
| 2" meter | | 81.00 |
| 3" meter | | 147.00 |
| 4" meter | | 235.00 |
| 6" meter | | 497.00 |
| 8" meter | | 866.00 |
| 10" meter | | 1,308.00 |
| 12" meter | | 1,930.00 |

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# Report of Independent Auditors on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with *Government Auditing Standards*

Board of Commissioners
Wastewater Division of the Knoxville Utilities Board
Knoxville, Tennessee

## Report on the Financial Statements

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the Wastewater Division (the Division) of the Knoxville Utilities Board, a component unit of the City of Knoxville, Tennessee, as of and for the year ended June 30, 2016, and the related notes to the financial statements, which collectively comprise the Division's basic financial statements, and have issued our report thereon dated October 27, 2016.

## Internal Control over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Division's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Division's internal control. Accordingly, we do not express an opinion on the effectiveness of the Division's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the Division's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

## Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Division's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

## Purpose of Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Division's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Division's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Coulter & Justus, P.C.

Knoxville, Tennessee
October 27, 2016

APPENDIX F-1

# GENERAL INFORMATION

# THE CITY OF KNOXVILLE

## THE CITY

The City of Knoxville (the “City”) was founded in 1791 and incorporated in 1815. It is governed by a Mayor-Council form of government. The Mayor is the chief executive and administrative officer and is elected by direct vote of the people to a four-year term. The Mayor is responsible for the day-to-day operations of the City and appoints and supervises the heads of all major City departments. The City Council is composed of six district and three at-large members, each elected for a four-year overlapping term. As the City's legislative body, the Council is responsible for acting on ordinances and resolutions which govern the City as well as for the confirmation of members to most boards and commissions. A municipal judge is elected by direct vote to a four-year term and is responsible for the enforcement of certain City ordinances and the administration of the City court system.

On a continuing basis, the City provides a full range of municipal services contemplated by its Charter and various state statutes. Governmental functions include police and fire protection, sanitation services, inspections, engineering, street maintenance, parks and recreation, economic development, and general administrative support systems. The City is also engaged in several proprietary activities and owns and operates (under a separate authority) two municipal airports, utility systems (electric, gas, water and wastewater), an auditorium / coliseum, a convention center, an exhibition center, a public transportation system and several parking facilities.

Knoxville, the county seat, is the largest incorporated municipality in Knox County (the “County”). The City is located on the Tennessee River near the geographic center of East Tennessee and has a land area of approximately 98 square miles within its corporate limits. The 2010 U.S. Census figures show the population of Knox County as being 432,226.

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# KNOXVILLE UTILITIES BOARD

## HISTORY AND ORGANIZATION

The Knoxville Utilities Board (the “Board” or “KUB”) (under its then name of Knoxville Electric Power and Water Board) was organized on March 14, 1939. The present name of Knoxville Utilities Board was adopted in 1947. As originally established, the Board consisted of five members with terms of ten years. A Charter amendment, adopted in compliance with the home rule provisions of the Tennessee Constitution, including approval in a city-wide referendum held November 5, 1974, changed some of the provisions concerning the membership of the Board. The Board was enlarged to seven members. The term for each member was reduced to seven years with the terms being so arranged that the appointment of one member will be made each year. Members of the Board are limited to two seven-year terms.

The selection procedure for a member is initiated by the Board submitting to the Mayor a list of at least five nominees from which list the Mayor selects one nominee to present to the City Council for confirmation or rejection. In case the City Council rejects a nominee, the nominating procedure is repeated until an appointment is made.

The Board operates the City's Water Division (purchased in 1909), the City's Electric Division (purchased in 1939), the City's Natural Gas Division (purchased in 1945), and the City's Wastewater Division (transferred to the Board by referendum in 1987). The joint operation of these four city-owned utilities provides cost savings to each system by reason of joint billing and other operating economies.

KUB’s organizational structure has three major functional areas including an Engineering and Operations Division, Finance Division and Administrative Division.

Except as specifically limited by the provisions of the City Charter relating to the Board, the Board is authorized to exercise all powers of the City to construct, acquire, expand, operate, manage, and control the City's electric, gas, water and wastewater systems free from the jurisdiction, direction and control of the Mayor, City Council and its officers.

## THE BOARD OF COMMISSIONERS

Members of the Board of Commissioners are:

CELESTE HERBERT, Chair, Commissioner. Attorney, Herbert, Meadows and Wall, PLLC.

JOHN WORDEN, Vice Chair, Commissioner. Partner, Worden, Rechenbach & Brooke.

JERRY W. ASKEW, Ph.D., Commissioner. Vice President of External Relations at Tennova Healthcare.

KATHY HAMILTON, CPA, Commissioner. Chief Operating Officer, Healthcare 21 Business Coalition.

SARA HEDSTROM PINNELL. President, Hedstrom Design.

TYVI SMALL, Commissioner. Executive Director of Talent Management, Diversity and Community Relations, University of Tennessee

NIKITIA THOMPSON. Owner/Principal Broker, Nikitia Thompson Realty.

## OFFICERS

MINTHA E. ROACH, President and CEO since 2004. Ms. Roach has been with KUB since 1992 and is the sixth CEO for KUB since its formation in 1939. She holds a B.S. in Business Administration from the University of Tennessee.

MARK A. WALKER, Senior Vice President and Chief Financial Officer, was appointed to this position in 2011 and serves as the fifth CFO since KUB was formed. Mr. Walker currently serves as Secretary of the Board of Commissioners. He has been with KUB since 1993. Mr. Walker received a B.S. in Finance from the University of Tennessee's College of Business and also received an M.B.A. in Economics from the University of Tennessee.

SUSAN F. EDWARDS, Senior Vice President and Chief Administrative Officer, was appointed to the position in 2013. She has been with KUB since 1997. She has a B.S. in Business Administration from the University of Tennessee.

H. EDWARD BLACK, Senior Vice President, was appointed to this position in 2003. Mr. Black has been with KUB since 1979. He holds a B.S. in Agriculture and B.A. in Microbiology, as well as an M.B.A. in Management from the University of Tennessee.

GABRIEL BOLAS, Senior Vice President and Chief Engineer, was appointed to this position in 2017. Mr. Bolas has been with KUB since 1995. He has a B.S. in Electric Engineering, as well as a Masters in Industrial Engineering from the University of Tennessee.

DERWIN HAGOOD, Senior Vice President of Operations, was appointed to this position in 2017. Mr. Hagood has been with KUB since 1985. He has a B.S. in Civil Engineering from the University of Tennessee.

## INSURANCE

*Crime Liability*. Coverage for losses resulting from employee dishonesty, robbery, burglary and computer fraud including fraudulently induced wire transfers. Limits of coverage - $5,000,000; $250,000 retention.

*Directors' and Officers' Liability*. Covers KUB personnel appropriately authorized to make decisions on behalf of KUB (including but not limited to Commissioners, President & CEO, Senior Vice Presidents, and Vice Presidents and Directors) for wrongful acts. Limits of coverage - $20,000,000; $1,000,000 corporate deductible, $0 individual deductible.

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*Employee Health Plan Stop Loss Coverage.* KUB's employee health plan is self-funded. KUB has purchased stop loss insurance, which covers KUB's exposure to annual expenses in excess of $400,000 per individual participant.

*Employment Practices Liability.* Coverage for costs related to actual or alleged employment practices violations for amounts exceeding specified amount ($500,000). Limits of coverage - $10,000,000.

*Excess Insurance for General Liability.* As a governmental entity, KUB's liability is limited under the Tennessee Governmental Tort Liability Act (TCA §29-20-403). KUB is self-insured for the first $700,000 of any accident and has insurance of $1,000,000 above this retention.

*Excess Insurance for Workers' Compensation.* Covers all losses exceeding specified amount per occurrence ($1,000,000). Limits of coverage - Statutory; stop loss coverage applies for aggregate losses over $5,000,000.

*Fiduciary.* Coverage for losses resulting from wrongful acts related to KUB's Pension, 401(k), and OPEB Trust funds. Limits of coverage - $10,000,000; $150,000 deductible.

*Pollution Legal Liability.* New conditions coverage for losses exceeding specified amount per occurrence ($1,000,000). Limits of coverage - $20,000,000.

*Property Insurance*. This coverage provides protection of KUB's property for fire, extended coverage, vandalism and malicious mischief and coverage on boilers and machinery. Also included are flood and earthquake damage and mechanical failure. Limits of coverage - $250,000,000 per occurrence (subject to certain sublimits); $2,500,000 deductible per occurrence.

*Travel Accident.* Coverage for losses related to employees' business travel. Limits of coverage - $1,500,000 aggregate.

## RETIREMENT PLAN

For more information concerning KUB's retirement and disability plans, please refer to the "Notes to the Financial Statements" attached hereto.

## SERVICE AREA

KUB provides electric, water, natural gas and wastewater services for all of Knoxville, and certain utilities in most of Knox County, a substantial area of Union County and a limited area of Grainger, Jefferson, Blount, Anderson, Loudon and Sevier Counties. Knox County has a land area of about 508 square miles of which approximately 98 square miles are within the corporate limits of Knoxville. KUB is the distributor of electric power supplied by the Tennessee Valley Authority (the "TVA"), for natural gas energy purchased from various suppliers, and for water which is taken from the Tennessee River.

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## ELECTRIC DIVISION

The Electric Division, which was established in 1939, is owned by the City and operated by KUB. KUB purchases all of its electric power requirements from TVA. During year ended June 30, 2016, the operating revenues of the Electric Division totaled $521,369,202, of which $402,603,523, or 77%, was paid to TVA for the purchase of power.

The electric system includes 5,321 miles of service lines, serving a portion of seven different counties. As of June 30, 2016, KUB had 202,843 electric system customers. The Division's outstanding long-term debt including the current portion, as of June 30, 2016, totaled $237,985,000.

## NATURAL GAS DIVISION

The Natural Gas Division has been owned by the City and operated by KUB since 1945 when it was purchased from City Service Company for $450,000. KUB purchases natural gas from multiple suppliers. During the year ended June 30, 2016, the operating revenues of the Natural Gas Division totaled $88,441,144, of which $41,212,470, or 47%, was paid to natural gas suppliers and pipelines.

KUB's natural gas system has 2,316 miles of services mains and has a peak day capacity of 157,381 dekatherms (dth). As of June 30, 2016, KUB had 99,808 gas system customers. The Division's outstanding long-term debt, as of June 30, 2016 including the current portion, totaled $102,125,000.

## WATER DIVISION

In 1939, the City's Electric Power and Water Board, now KUB, was established and granted responsibility for the operation of the city-owned Water and Electric Divisions. The Water Division consists of facilities for the treatment, storage and distribution of water obtained from the Tennessee River. The Water Division distributes water throughout the City of Knoxville, a portion of East Knox County, and other small portions of Knox, Jefferson and Sevier Counties.

During year ended June 30, 2016, the operating revenues of the Water Division totaled $47,453,401. As of June 30, 2016, KUB had 78,980 water system customers. The Division's outstanding long-term debt, as of June 30, 2016 including the current portion, totaled $143,990,000.

## WASTEWATER DIVISION

On November 4, 1986, voters in the City elected to transfer operation of the City's Wastewater Division to KUB, effective July 1, 1987. While the Wastewater Division is a self-sustained financial entity, the operations of both the Water and Wastewater Divisions have been merged to achieve operating efficiencies. The Wastewater Division provides collection and treatment throughout the City and portions of East Knox County.

For the fiscal year ended June 30, 2016, operating revenues for the Wastewater Division totaled $83,645,509. As of June 30, 2016, KUB served 70,265 wastewater system customers. As of June 30, 2016 including the current portion, the outstanding long-term debt of the Wastewater

Division totaled $492,330,000.

## FEDERAL CONSENT DECREE

In February 2005, a Consent Decree was entered into federal court regarding the operation of KUB's wastewater system. Under the terms of the Consent Decree, the remediation of identified sanitary sewer overflows (SSOs) on KUB's wastewater system had to be completed by June 30, 2016. KUB completed all the requirements of the Consent Decree for the collection system two years in advance of the deadline.

The Consent Decree also required KUB to perform an evaluation of the wet weather performance and capacity of its wastewater treatment plants. In July 2007, KUB submitted a Composite Correction Plan (CCP) for its wastewater treatment plants to EPA for review. The development and filing of the CCP was a requirement of the federal order of February 2005. The CCP includes recommended improvements to KUB's Kuwahee and Fourth Creek treatment plants to address wet weather capacity issues noted in prior assessments. The EPA approved the CCP in January 2009 including a recommended schedule of plant improvements that extends beyond the expiration date of the original Consent Decree. An amendment to the Consent Decree incorporating and establishing this schedule was agreed to by all parties and was entered on June 23, 2009. The purpose of the Amendment is to allow KUB to complete a portion of work outlined in the CCP after the Consent Decree deadline of June 30, 2016. The CCP provides for a biologically enhanced high-rate clarification (the BEHRC) secondary treatment system to be installed at the Fourth Creek treatment plant by June 30, 2018 and at the Kuwahee treatment plant by June 30, 2021. The total cost of such improvements is estimated to be approximately $120 million.

KUB's funding plan for the Consent Decree includes long-term bonds and a series of rate increases phased in over the term of the order. Bond proceeds fund all types of wastewater capital projects, the majority of which are related to the Consent Decree. As of June 30, 2016, the Wastewater Division had issued $485 million in bonds to fund system capital improvements since the inception of the Consent Decree. The Board previously approved two 50 percent rate increases, which went into effect in April 2005 and January 2007. The Board also approved an 8 percent rate increase, which was effective in September 2008, two 12 percent rate increases, which were effective in April 2011 and October 2012, and three 6 percent rate increases effective October 2014, October 2015 and October 2016. KUB anticipates additional bond issues and rate increases over the next decade to help fund wastewater capital improvements.

KUB successfully completed the first cycle of Maintenance Operation Management (MOM) requirements one year before the deadline by inspecting 99.5% of manholes and gravity mains, smoke testing 99.9% of gravity mains, performing required inspections of pump stations and the related force mains, and completing all Corrective Action Plan/Engineering Report (CAP/ER) projects. KUB initiated the second MOM cycle that continues to focus on the prevention of SSOs. As part of the Century II initiative, formally known as the PACE10 program, KUB has installed storage tanks providing 34 million gallons of wastewater storage to control wet weather overflows and rehabilitated or replaced approximately 334.9 miles of collection system pipe. KUB also continues to maintain a proactive operations and maintenance plan for the wastewater collection system including inspection, grease control, and private lateral enforcement. The result of the PACE10/Century II initiative has been an 82 percent reduction in SSOs.

As of June 30, 2016, the Wastewater Division had completed its twelfth full year under the Consent Decree, spending $529.5 million on capital investments to meet Consent Decree requirements. During fiscal year 2016, the Wastewater Division incurred $37.3 million in total expenditures related to Consent Decree requirements, including $3.3 million for operating costs and $34 million in capital improvements which included the rehabilitation or replacement of 28 miles of wastewater main. During the fiscal year, $26.5 million was spent on sewer mini-basin rehabilitation and replacement. Trunk line rehabilitation and replacement accounted for $2 million of capital expenditures, while pump station improvements accounted for $4.6 million.

## CENTURY II INFRASTRUCTURE PROGRAM

Century II is KUB's proactive long-range program to improve and maintain the electric, natural gas, water and wastewater systems for its customers. It includes maintenance and asset replacement strategies for each system and establishes sustainable replacement cycles. Century II moves KUB into its second century of service by improving each system through sound planning, resource allocation, and continued, but accelerated, investment.

KUB's Century II programs were resumed in 2011, after a break due to the economic recession. At that time, the KUB Board of Commissioners endorsed ten-year funding plans for the electric and water systems, which include a combination of rate increases and debt issues to fully fund the Century II programs. The Board adopted three years of electric and water rate increases to help fund those plans. All three of those rate increases, adopted in 2011, have gone into effect.

In 2013, the Board extended the funding approach for Century II to include the natural gas and wastewater systems. The Board formally endorsed and adopted by resolution, ten-year funding plans for the natural gas and wastewater systems, which include a combination of rate increases and debt issues.

In April 2014, KUB management provided the Board an updated assessment of the overall condition of each utility system, including a recommendation for annual rate increases for each division for the next three fiscal years.

In June 2014, the Board approved the proposed three annual rate increases for all KUB Divisions, of which the first and second rate increases have gone into effect. The remaining electric rate increase will generate $5.2 million in additional annual revenue, while the gas rate increase will generate $1.8 million in additional annual revenue. The remaining water rate increase will produce $2 million in additional annual revenue and wastewater will produce $4.7 million of additional annual sales revenues.

In fiscal year 2015, KUB concluded the smart grid pilot project, of which a portion of the project was funded by a United States Department of Energy Smart Grid Investment Grant (SGIG). This grant was received by KUB in 2009 as part of the American Reinvestment and Recovery Act (ARRA). Based upon the success of that pilot, KUB formed a plan to move forward with a Century II Grid Modernization initiative, which includes advanced metering for all KUB customers, a telecommunication system linking critical KUB infrastructure, and an increased investment in automation technology to help operate KUB's energy and water distribution systems.

In April 2016, KUB management presented the fiscal year 2017 budget to the KUB Board of Commissioners that accommodates the projected level of capital investment for the fiscal year. Over the course of the next ten years KUB plans to spend \$108 million dollars on Grid Modernization. In July 2016, the four-year deployment of advanced meters began. The deployment is funded in large part by debt issues and incremental rate increases.

KUB is in the process of implementing a 15-year initiative to ensure KUB will continue to provide high-quality, reliable water service to its customers over the long-term. KUB maintains a single water treatment plant for its system. In lieu of building a second treatment facility to ensure capacity will be available to meet the needs of current and future water customers, KUB will invest approximately \$120 million in various redundant facilities at its existing Mark B. Whitaker Water Treatment Plant over the next 11 years.

For the fiscal year, KUB stayed on track with its overall Century II capital budget and production goals. 2,208 poles and 13.3 miles of underground electric cable were replaced for the electric system. 4.2 miles of cast iron/ductile iron gas main were replaced for the natural gas system. 14.3 miles of galvanized water main and 7.2 miles of cast iron water main were replaced for the water system. 28 miles of wastewater system main were rehabilitated or replaced.

The natural gas South Loop project was completed in October 2015, which included the installation of a new 8-mile transmission main in the southwest portion of KUB’s service territory. The South Loop will provide additional system capacity to meet the increased natural gas demands of the University of Tennessee, in addition to other potential growth opportunities in that portion of KUB’s gas service territory.

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# KNOX COUNTY AND CITY OF KNOXVILLE

## LOCATION

Knox County (the "County") is located in the northeastern portion of the State of Tennessee. Founded in 1791 where the French Broad and Holston Rivers converge to form the Tennessee River, Knoxville (the "City") is the largest city in East Tennessee and ranks third largest in the State. Knoxville is also the County Seat. The County is located in a broad valley between the Cumberland Mountains to the northwest and the Great Smoky Mountains to the southeast.

To the north, the County is bordered by Union and Grainger Counties. Jefferson and Sevier Counties make up the County's eastern border, while the County's southern border is provided by Blount and Loudon Counties. To the immediate west of the County lies Anderson County. There are about 98 square miles in the City of Knoxville and about 508 square miles in all of Knox County.

## GENERAL

In 2004 Knoxville was designated a Metropolitan Statistical Area (the "MSA") that had a population of 837,571 according to the 2010 US Census. The MSA includes Knox (Knoxville and Farragut), Anderson (Oak Ridge and Clinton), Blount (Maryville and Alcoa), Campbell (LaFollette), Grainger (Rutledge), Loudon (Loudon), Morgan (Wartburg), Roane (Harriman) and Union (Maynardville) Counties.

The City is also part of the Knoxville-Sevierville-Harriman Combined Statistical Area (the "CSA"). According to the 2010 Census, the CSA had a population of 1,056,442. The CSA includes Roane, Anderson, Blount, Knox, Loudon, Union, Grainger, Hamblen, Jefferson, Campbell, Cocke and Sevier Counties. The City of Knoxville is the largest city in the CSA with a population of 178,874 according to the 2010 Census. The 2010 Census reported Knox County (including the City) with a 432,226 population.

The following table shows past and current population figures for the City and County:

**Population Growth**

| | 1970 | 1980 | 1990 | 2000 | 2010 | 2015* |
|---|---|---|---|---|---|---|
| Knoxville | 174,687 | 175,045 | 165,121 | 173,890 | 185,100 | 185,291 |
| Knox County | 276,293 | 319,694 | 335,749 | 382,032 | 432,226 | 451,324 |

The only other municipality within the County, the Town of Farragut, has an estimated 2015 population of approximately 21,919 persons.

* 2015 Estimates from U.S. Census Bureau
*Source:* U.S. Census Bureau.

## SOCIOECONOMIC DATA

The following socioeconomic factors indicate the standard of living in the County, as compared to that of the Nation and State:

**Social and Economic Characteristics**

| | National | Tennessee | Knox County | Knoxville | Farragut |
|---|---|---|---|---|---|
| Median Value Owner Occupied Housing | $178,600 | $142,100 | $160,700 | $118,300 | $323,000 |
| % High School Graduates or Higher Persons 25 Years Old and Older | 86.70% | 85.50% | 90.2% | 87.8% | 97.4% |
| % Persons with Income Below Poverty Level | 13.50% | 16.70% | 15.6% | 25.7% | 4.5% |
| Median Household Income | $53,889 | $45,219 | $48,701 | $34,226 | $107,590 |

*Source*: U.S. Census Bureau State & County QuickFacts - 2015.

In 2015, Forbes listed Knoxville as the second most affordable city in America, based on housing prices, living costs, and consumer price index. The American Chamber of Commerce Researchers Association also ranks Knoxville as one of the most affordable southeast urban areas, with a 2015 cost-of-living score of 86.4, much lower than the national average of 100.

## TRANSPORTATION

The area has excellent transportation facilities by rail, air, river and highway. Both the Norfolk Southern and CSX Railroads have terminals and stops in the County, with lines radiating in nine directions. Pellissippi Parkway (I-140) provides a direct link to Oak Ridge from I-40 and I-75 in Knox County. Major highways serving the County include U.S. Highway 44, 129, 321, 411 and 441 as well as State Routes 33, 75 and 95.

*McGhee Tyson Airport.* McGhee Tyson Airport is the principal commercial airport in East Tennessee, serving the commercial airline industry, air cargo, military aviation and general aviation. With parallel 9,000 feet runways, McGhee Tyson Airport can accommodate any size aircraft. The Airport is located within the city limits of Alcoa 12 miles south of downtown Knoxville. The airport occupies more than 2,000 acres of land with space for additional air cargo facilities or economic development. This facility is owned and managed by the Metropolitan Knoxville Airport Authority. About 2,700 people work at the airport.

According to a 2012 study by the University of Tennessee's Center for Transportation Research, the airport contributes over $616 million to the local economy (including Anderson, Blount, Knox, Loudon and Sevier Counties) every year. The report examined the employment, business and tax impacts of the airport, including the Downtown Island Airport.

The Metropolitan Knoxville Airport Authority (MKAA) was established in 1978 as an independent nonprofit agency to own and operate McGhee Tyson Airport and Downtown Island Airport. The Authority's nine-member Board of Commissioners is appointed by the Mayor of Knoxville and confirmed by City Council. This board determines the policies for the current Airport Authority staff of 150 employees in six departments. The board appoints a President who serves as the chief administrator and executive officer. All of the revenues are generated by user fees and rental income so no taxpayer dollars are used to support airport operations.

Five air cargo services provide daily service. In addition, six passenger airlines carry air cargo on most flights. More than 80,000,000 pounds of airfreight annually pass through its cargo facilities. Federal Express, United Parcel Service and DHL are the main couriers.

McGhee Tyson Airport has several major airlines serving 20 non-stop destinations including Atlanta, Chicago, Dallas/Ft. Worth, Denver, Houston, Las Vegas, New York, Orlando, Philadelphia and Washington D.C. With more than 120 arrivals and departures each day and more than 4,000 seats available, McGhee Tyson Airport is one of the most convenient and accessible regional airports in the nation.

The airport is served by the low fare carriers Allegiant Air and Frontier Airlines. Allegiant Travel Company is focused on linking travelers in small cities to world-class leisure destinations such as Destin/Ft. Walton Beach, FL, Ft. Lauderdale, FL, Las Vegas, NV, Myrtle Beach, NC, Orlando, FL, Sarasota/Fort Meyers, FL, Tampa/St. Petersburg, FL and Washington, D.C. Through its subsidiary, Allegiant Air, the company operates a low-cost, high-efficiency, all-jet passenger airline offering air travel both on a stand-alone basis and bundled with hotel rooms, rental cars and other travel related services. Frontier Airlines started flight in the summer of 2011 from Knoxville to its hub in Denver, Colorado.

McGhee Tyson is served by major and regional carriers including:

***Major Airlines:***

Allegiant Air
Delta Airlines
Frontier Airlines

***Regional Carriers:***

American Eagle
United Express

*Source:* Metropolitan Knoxville Airport Authority.

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These airlines connect passengers with service to several hub airports across the nation on more than 120 flights daily.

**McGhee Tyson Airport**

| Total Year | Commercial Passengers | Total Air Cargo in Pounds |
|---|---|---|
| 2006 | 1,674,877 | 92,219,596 |
| 2007 | 1,821,581 | 100,286,989 |
| 2008 | 1,742,579 | 97,366,366 |
| 2009 | 1,680,716 | 82,304,377 |
| 2010 | 1,688,882 | 93,393,658 |
| 2011 | 1,773,671 | 92,390,849 |
| 2012 | 1,747,145 | 91,514,071 |
| 2013 | 1,676,374 | 84,029,942 |
| 2014 | 1,738,133 | 74,115,672 |
| 2015 | 1,774,081 | 45,449,380 |

*Source:* Metropolitan Knoxville Airport Authority.

McGhee Tyson Airport has undergone many improvements in the past few years:

2008 West Aviation Area $50.7 million
2008 Airport Rescue and Fire Fighting Facility $11.3 million
2009 New Food Court in Terminal $615,000
2014 Runway and Taxiway System Upgrade $108 million

*Source:* Metropolitan Knoxville Airport Authority.

TACAir is McGhee Tyson Airport's general aviation services provider. In addition to providing fuel and services to commercial carriers, they also accommodate the general aviation industry, which includes corporate aviation, charter flights, flight schools and people who fly as a hobby.

The Tennessee Air National Guard's 134th Air Refueling Group operates 10 aircraft at McGhee Tyson Airport. The Guard's KC-135E tankers provide refueling to the country's military aircraft. In addition, the Army Aviation Support Facility, the 110th and 119th Tactical Control Squadrons and the 228th Combat Communications Squadron operate on the base.

The direct and indirect economic impact of McGhee Tyson Airport, including payroll, local spending, transportation cost savings, capital spending and induced benefits is estimated at $1 billion annually. The jobs formed by the aviation industry are perhaps the most important direct benefit that McGhee Tyson Airport offers East Tennessee. Approximately 2,700 people are now employed at McGhee Tyson Airport.

*Downtown Island Home Airport*. Knoxville's Downtown Island Home Airport, located five minutes from downtown, serves as another home base for smaller and privately owned airplanes. The Island Home Airport is a 150-acre general aviation facility with a 3,500-foot runway. It is home to nearly 140 private and corporate aircraft, with 24 hours a day service available.

*Waterways*. Fifteen miles away is the head of the Tennessee River navigation channel in Knoxville. This river is part of the Interconnected Inland Water System that links Knoxville with 21 states, the Mississippi River and the Great Lakes. Linkages may be made to the entire inland waterway system, allowing shipments to be made by water to Houston, Tampa, Pittsburgh, Minneapolis and Little Rock.

Six active river terminals handle barge shipments throughout the area. The Tennessee-Tombigbee Waterway links East Tennessee with 13 other states and the Gulf of Mexico. This 234-mile canal connects 16,000 miles of waterways throughout Tennessee, Mississippi and Alabama leading to the Port of Mobile and the Gulf of Mexico. This Waterway shortens the shipping between Tennessee and the Gulf of Mexico by 882 miles and enables East Tennessee products to arrive at their Gulf destination from eight to nine days earlier. The development of the Tennessee-Tombigbee Waterway has been a catalyst for the development of industry and agriculture throughout the area. Barge shipping has always been a popular alternative to rail in East Tennessee because of the existence of the Inland Water System.

Knoxville has a Foreign Trade Zone and is an inland Port of Entry with a U.S. Customs Office. In 1988, Knoxville was given its Foreign Trade Zone designation by the U.S. Department of Commerce. This designation allows manufacturers to ship foreign raw materials and components to parts of Knoxville and store them duty free in Knoxville until used. In May 1991, the Foreign Trade Zone was activated.

## EDUCATION

*Knox County School System.* The County operates 91 schools: 48 elementary (including primary and intermediate), 13 middle, 15 high schools, and several non-traditional/adult education centers. Included are five magnet schools offering enhanced arts and science curriculum and a new Science, Technology, Engineering, and Mathematics (STEM) Academy. In fall 2015, total public school enrollment was 59,516, while the system employed 3,927 teachers. In addition to public education, there are 50 private and parochial schools offering elementary and secondary instruction in Knox County.

*Source:* Tennessee Department of Education and Knox Metropolitan Planning Commission.

Post-secondary education is available at 10 public and private four-year institutions in Knox County and the surrounding area. The University of Tennessee's main campus is in Knoxville. Pellissippi State Technical Community College and Roane State Community College offer two-year programs for technical and associate degrees along with four other vocational/technical institutions. There are four business colleges located in the area.

*University of Tennessee, Knoxville (the "UT" or "UTK").* UTK is one of the oldest land-grant universities in the nation. There are over 230 buildings on a 600-acre campus. Blount College, UTK's forerunner, was established in Knoxville in 1794, two years before Tennessee became a state. With a fall 2016 enrollment of 28,052 students, UTK is the largest campus in the University of Tennessee System (the "System"). According to the U.S. News and World Report, UTK ranked 47th among the nation's best public universities in 2016.

The System is a statewide institution governed by a 26-member Board of Trustees appointed by the governor of Tennessee. Institutions of the System are UTK, UT Health Science Center in Memphis, UT Chattanooga, UT Martin, UT Space Institute in Tullahoma, and UT Institute for Public Service in Knoxville. In addition to the primary campus, the Agricultural Campus houses the UT Institute of Agriculture, a statewide administrative unit that includes the College of Veterinary Medicine, the College of Agricultural Sciences and Natural Resources, the Agricultural Extension Service and the Agricultural Experiment Stations.

UTK is a major research institution, attracting more than $130 million in externally sponsored programs annually. The Division of Aeromedical Services is one of the country's most respected and comprehensive aeromedical programs. UTK is a co-manager with UT-Battelle, LLC of the nearby Oak Ridge National Lab (the "ORNL"). UT-Battelle, LLC was established in 2000 as a private not-for-profit company for the sole purpose of managing and operating the ORNL for the U.S. Department of Energy (the "DOE"). Formed as a 50-50 limited liability partnership between the UTK and Battelle Memorial Institute, UT-Battelle, LLC is the legal entity responsible for delivering the DOE's research mission at ORNL. Faculty and students experience unparalleled research and learning opportunities at the DOE's largest science and energy lab.

UTK conducts externally-funded research totaling more than $300 million annually, including some $17 million annually in research sponsored by ORNL. Areas of joint research with ORNL include the Bioenergy Science Center's work on cellulosic ethanol; the Center for Computational Sciences' partnership with the National Science Foundation; and the Science Alliance, with divisions in biological, chemical, physical, and mathematical/computer science. UT/ORNL Joint Institutes and Centers include Biological Sciences, Computational Sciences, Neutron Sciences, Heavy Ion Research and the National Transportation Center.

To meet the growing demand for pharmacists, a second UT College of Pharmacy building opened on the Knoxville campus in fall 2007 and enrolled an additional 225 students. The three-story building is adjacent to the Health Science Center's Graduate School of Medicine. The UT College of Pharmacy will extend its reach across the state by adding Clinical Education Centers in Chattanooga, Jackson, Kingsport and Nashville.

The System and its statewide campuses bring in over $2 billion in annual income to the State and support more than 50,000 jobs. UTK also generates an estimated $237.6 million in state and local tax revenue per year. Students and visitors attending athletic events at each campus spent approximately $348 million, accounting for $147.3 million in income and 4,879 jobs.

*Source:* University of Tennessee, UT-Battelle and the News Sentinel.

*Johnson University – Tennessee.* Johnson University-Tennessee is a private, coeducational institution of higher learning offering associate, bachelor's and master's degrees about 12 miles from Knoxville. Founded in 1893, Johnson University-Tennessee is the second oldest continuing university in America. The purpose of the University is to educate students for specialized Christian ministries with emphasis on the preaching ministry. In the fall of 2016, total enrollment was 776 for the 350-acre campus.

*Source:* Johnson University.

*Oak Ridge Associated Universities (the "ORAU").* ORAU is a consortium of 121 universities and a contractor for the DOE located in Oak Ridge, Tennessee. Founded in 1946, ORAU works with its member institutions that include UTK and its satellite campuses. The purposes are to help their students and faculty gain access to federal research facilities throughout the country; to keep its members informed about opportunities for fellowship, scholarship, and research appointments; and to organize research alliances among its members. Through the Oak Ridge Institute for Science and Education (the "ORISE"), the DOE facility that ORAU operates, undergraduates, graduates, postgraduates, and faculty enjoy access to a multitude of opportunities for study and research. A pioneer in technology transfer with historic contributions in nuclear medicine and health physics, ORAU today conducts specialized training in nuclear related areas of energy, health and the environment.

*Source:* Oak Ridge Associated Universities.

*Pellissippi State Community College (the "PSCC").* Since its founding in 1974 as State Technical Institute at Knoxville, PSCC has expanded the teaching of technology, the use of technology in instruction, and the transfer of technology to local business and industry in support of regional economic development. Enrollment for fall 2016 was listed as 10,244. PSCC continues to support and develop career/technical associate's degrees and institutional certificates, university parallel associate's degree programs, and continuing education opportunities for the citizens of Knox, Blount, and surrounding counties. PSCC has been named one of the 200 fastest-growing community colleges in the nation, according to Community College Week. PSCC has released a 2015 report showing the school has pumped more than $339 million annually into the Knoxville-area economy over the last 5 years.

Five campuses make up PSCC. The main campus is the Hardin Valley Campus in west Knoxville. The Division Street Campus and the Magnolia Avenue Campus, which opened in 2000, are also in Knoxville. A $22 million campus was completed in late 2010 in Blount County. The Strawberry Plains campus began offering coursework in August 2012.

*Source:* Pellissippi State Community College and TN Higher Education Commission.

*Roane State Community College (the "RSCC").* RSCC, which began operation in 1971 in Harriman, Tennessee, is a two-year higher education institution which serves a fifteen county area. Fall 2016 enrollment was 5,636 students. Designed for students who plan to transfer to senior institutions, RSCC academic transfer curricula include two years of instruction in the humanities, mathematics, natural sciences, and social sciences.

RSCC's 138-acre main campus is centrally located in Roane County where a wide variety of programs are offered. RSCC has nine locations across East Tennessee – the Roane County flagship campus; an Oak Ridge campus; campuses in Campbell, Cumberland, Fentress, Loudon, Morgan and Scott Counties; and a center for health science education in west Knoxville.

*Source:* Roane State Community College.

*South College.* South College, is a private institution that has been a part of Knoxville since 1882. The main campus facility is located on Lonas Drive. In 2011, South College moved its Learning Site to the old Goody's headquarters in Parkside Centre. In 2015, South College-Ashville in North Carolina was merged into South College as a second Learning Site. It has a total enrollment of about 650 students. Throughout its history South College has endeavored to meet the demands of the East Tennessee business community. South College offers a Master's of Health Science in

Physician Assistant Studies and baccalaureate degree programs including Pharmaceutical Science (Pre-Pharmacy), Nursing, Health Science (Radiography/Nuclear Medicine), Elementary Education, Business Administration, and Legal Studies. Current associate degree programs include Radiography, Physical Therapist Assistant, Paralegal Studies, Business Administration, Accounting, and Medical Assisting. Nuclear Medicine and Post-Baccalaureate Program (Elementary Education K-6) are the certificate programs offered.

*Source:* South College.

*Tennessee College of Applied Technology-Knoxville (the "TCAT-Knoxville").* TCAT-Knoxville is part of a statewide system of 27 vocational-technical schools. TCAT-Knoxville meets a Tennessee mandate that no resident is more than 50 miles from a vocational-technical shop. TCAT-Knoxville's primary purpose is to meet the occupational and technical training needs of the citizens including employees of existing and prospective businesses and industries in the region. TCAT-Knoxville serves the central east region of the state including Knox and Blount Counties. TCAT-Knoxville began operations in 1966, and the main campus is located in Knox County. Fall 2016 enrollment was 1,381 students.

*Source:* Tennessee College of Applied Technology-Knoxville.

*Tusculum College Graduate and Professional Studies Program (the "Tusculum").* Tusculum maintains offices in Knoxville for its Graduate and Professional Studies Program, in addition to other class sites across East Tennessee. Located in Greeneville, Tusculum is a private college affiliated with the Presbyterian Church. Tusculum was founded in 1794, making it the oldest college in Tennessee and the twenty-eighth oldest college in the nation. Fall 2016 enrollment was 885. The wooded 140-acre Tusculum campus has eight buildings and the Tusculum Arch that are listed on the National Register of Historic Places. Tusculum is one of three colleges in the country to operate on a focused calendar, in which courses are scheduled one at a time.

*Source:* Tusculum College.

## HEALTHCARE

Knoxville serves as a regional medical center for 27-counties in East Tennessee and Kentucky. The available technology, the specialized institutions, and a reputation for quality health care bring people into Knoxville from a 200-mile radius. There are 2,418 beds in nine acute care hospitals in the County, including three healthcare systems (Covenant Health Care, Tennova Health System and University of Tennessee).

Construction and renovations to existing facilities in the area have made a substantial impact on the local economy. In the early 2000's, Knox County saw two new hospitals open along with several renovations and expansions of other existing hospitals.

*Source:* Knox Metropolitan Planning Commission and the News Sentinel.

### *Covenant Health*

Covenant Health is a comprehensive health system established in 1996 by the consolidation of Fort Sanders Health System, Knoxville, Tennessee, and MMC HealthCare System, parent company of Methodist Medical Center of Oak Ridge, Tennessee. With headquarters located in Knoxville, Covenant Health provides comprehensive services throughout East Tennessee. It is also the largest employer in the area. The organization is governed by a voluntary board of directors composed of community leaders and medical professionals.

Covenant Health includes 30 member organizations, nine of which are acute care hospitals in East Tennessee: Fort Sanders Regional Medical Center and Parkwest Medical Center in Knoxville, Methodist Medical Center of Oak Ridge, Fort Loudon Medical Center in Lenoir City, LeConte Medical Center in Sevierville, Roane Medical Center in Harriman, Morristown-Hamblen Healthcare System in Morristown, Cumberland Medical Center in Crossville and Claiborne Medical Center in Tazewell. It also includes Peninsula Hospital, a psychiatric hospital in East Tennessee's Blount County. Covenant Health also operates numerous other healthcare facilities for outpatient clinics, cancer centers, breast centers, behavioral health, rehabilitation, home health and weight management to name a few.

Over the last few years, the largest hospital operator in the area has built new or expanded facilities in Sevier, Loudon, Anderson, Cumberland and Knox counties. It recently finished construction for a $150 million expansion project at Fort Sanders Regional Medical Center in Knoxville as well as for a new $50 million hospital in Roane County.

*Fort Sanders Regional Medical Center (the "Fort Sanders").* Part of Covenant Health, Fort Sanders is a 541-bed full-service acute care hospital with about 350 doctors located in the Fort Sanders community of downtown Knoxville. The hospital was built in 1919 and has about 2,100 employees, and had 16,229 admissions in 2015. In 2013 Fort Sanders received national recognition as a comprehensive stroke center, the second Tennessee hospital to receive this award. This certification from the Joint Commission on Accreditation of Healthcare Organizations means that the medical center is recognized as having the infrastructure, staff and training to receive and treat complex cases. Fort Sanders is a regional referral center for neurosurgery, neurological disorders, orthopedics, oncology, cardiology, obstetrics and rehabilitation medicine. Fort Sanders offers a variety of specialized services such as a 24-hour Chest Pain Center, one-day surgery, electrodiagnostics, a Sleep Disorders Center, a Diabetes Center, prenatal education, and sports medicine. A new $150 million expansion was completed for the facility in 2010.

*Parkwest Medical Center (the "Parkwest").* Part of Covenant Health, Parkwest is the region's only Top 100 Heart Hospital (which the hospital has been named eight times). Parkwest has 307 beds with over 600 doctors on staff. The total employment is about 2,200, and there were 16,311 admissions in 2015. The campus includes one of the area's first all-digital catheterization laboratories and a comprehensive breast center with a multidisciplinary approach to women's health. Peninsula Behavioral Health is a division of Parkwest Medical.

*Tennova Healthcare*

Tennova Healthcare is a for-profit healthcare system and has seven acute care hospitals in Knoxville and the surrounding area. Florida-based Health Management Associates Inc. bought Mercy Health Partners in 2011 and changed the name to Tennova Healthcare. Tennova Healthcare and Health Management Associates were acquired by Community Health System based in Nashville, TN. Tennova Healthcare is now part of one of the largest for-profit hospital companies in the country.

Tennova Healthcare facilities include the following: Physicians Regional Medical Center (Knox County), Turkey Creek Medical Center (Knox County), North Knoxville Medical Center (Knox County), Jefferson Memorial Hospital (Jefferson County), Newport Medical Center (Cocke

County), LaFollette Medical Center (Campbell County), and Lakeway Regional Hospital (Hamblen County). Dyersburg Regional Medical Center (Dyer County), Regional Hospital of Jackson (Madison County), Volunteer Community Hospital (Weakley County) and McNairy Regional Hospital (McNairy County) were all acquired by Tennova Healthcare in September 2015.

*Physicians Regional Medical Center (the "Physicians Regional").* Part of Tennova Healthcare, Physicians Regional is a 401-bed facility with 811 physicians on staff near downtown Knoxville. With a total of 1,877 employees, Physicians Regional had 13,875 admissions in 2015. Built in 1930, Physicians Regional has five areas of special expertise: Women's Services, Cancer Care, Orthopedics, Cardiac Care and Neurosciences. (See "RECENT DEVELOPMENTS" for more information.)

*North Knoxville Medical Center.* Part of Tennova Healthcare, North Knoxville Medical Center opened in the fall of 2007 in north Knox County. The full service facility has 108 beds with 811 physicians on staff. A total of 478 people are employed at the Center, and in 2015 there were 4,030 admissions.

*Turkey Creek Medical Center (the "Turkey Creek").* Part of Tennova Healthcare, Turkey Creek Medical Center has 101 beds with 811 physicians on staff in west Knoxville. There are 523 people employed at the hospital, and in 2015 there were 4,199 admissions. Turkey Creek has a 24-hour, full-service, all-digital campus, with a completely staffed emergency department that cares for men, women and children of all ages. Every patient room is a private room. An intensive care unit, state-of-the-art surgical suites, imaging services, rehabilitation services and specialized staff and physicians bring groundbreaking, comprehensive treatment. Turkey Creek had merged with the neighboring Baptist Hospital for Women. The merged hospital offers labor, delivery, recovery and postpartum suites, backed up by the latest technology. Surgery, mammography, wellness and general care services are all focused on a woman's needs. In the summer of 2008, the open-heart program from Baptist Hospital of East Tennessee moved to Turkey Creek. The hospital is also home to the Stokely Heart Pavilion and the Baptist Regional Cancer Center. The hospital opened in the summer of 2003.

*East Tennessee Children's Hospital (the "Children's")*

Located in Knoxville, Children's is a private, independent, not-for-profit pediatric medical center. There are 152 beds with 428 doctors on staff, of which more than 90 are pediatric subspecialists. A total of 1,992 people are employed at the hospital, and there were 5,944 admissions in 2015. Children's originally opened in 1937 and is the only Comprehensive Regional Pediatric Center in East Tennessee certified by the state. Pediatric services offered include ICUs, emergency services, outpatient clinics for oncology, hematology, diabetes, cystic fibrosis and a rehabilitation center. (See "RECENT DEVELOPMENTS" for more information.)

*University Health System, Inc. (the "UHS")*

UHS is a regional health system that comprises the UT Medical Center, the UT Heart Hospital, UT Health Network and various partnerships and joint ventures with physicians and healthcare companies. UHS is affiliated with the University of Tennessee Graduate School of Medicine and numerous regional hospitals and physician organizations. UHS supports and collaborates with the UT Graduate School of Medicine and other academic endeavors as part of its commitment to excellence in education and research.

*University of Tennessee Medical Center (the "UT Medical Center*"). The UT Medical Center in Knoxville is an acute care teaching hospital with 581 beds and more than 450 doctors. The UT Medical Center employs 4,224 people and had 27,734 admissions for 2015. Designated as the region's Level I adult and pediatric Trauma Center by the State of Tennessee, UT Medical Center provides the highest level of programs and emergency services. Critically ill patients are transported to UT Medical Center via one of LIFESTAR'S two helicopters.

Special care units such as cardiac care, open heart, medical intensive care, neuro-respiratory, and trauma surgical intensive care are available for patients who require maximum medical attention. A Level IV Intensive Care Nursery, a Pediatric Intensive Care Unit, a newborn nursery and many other programs comprising Children's Health Services enable UT Medical Center to provide the region's most comprehensive medical services for infants and children. UT Medical Center also serves as the Regional Perinatal Center. The UT Heart Hospital was opened in 2010. The Cancer Institute finished construction in 2012. (See "RECENT DEVELOPMENTS" for new construction on the facility.)

*Source:* Covenant Health, Tennova Healthcare, East TN Children's Hospital, University Health System and the News Sentinel.

## SCIENCE AND ENERGY

### *History*

The City of Oak Ridge has a unique history. This area was selected by the United States government in 1942 as the location for its production plants for uranium 235, a component of the first atomic bomb. The original site was built during World War II to house and furnish necessary facilities for the employees of the uranium plants. This project (known as the "Manhattan Project") was transferred to the Atomic Energy Commission in 1947, and the community was operated by contractors under the control of the Atomic Energy Commission. In 1955, the Atomic Energy Commission sold the homes and land to the residents. By 1959, the residents voted in favor of incorporation under a modified city manager-council form of government.

Since the 1940's, the nuclear industry has been the largest employer for the City of Oak Ridge and Roane and Anderson Counties when a weapons fabrication division was built by the U.S. Army Corps of Engineers. As part of the secret World War II "Manhattan Project", the early task of the plant was the separation of fissionable uranium-235 from the more stable uranium-238 by an electro magnetic process to be utilized in the world's first atomic bomb. Some 80,000 workers were hired for emergency construction of the laboratories and offices on the 56,000-acre site. At the peak of production during the war, 23,000 employees kept the separation units working at a cost of $500 million for the entire project.

Today, the U.S. Department of Energy (the "DOE") occupies approximately 33,000 acres and almost 1,200 buildings within the Oak Ridge city limits, and employs over 13,000 in engineering, skilled and semi-skilled crafts, technical and administrative support. Since October 1999, DOE has contracted with the University of Tennessee and UT-Battelle, LLC to manage the Oak Ridge National Lab (the "ORNL"). UT-Battelle, LLC began management of the lab on June 1, 2000. Consolidated Nuclear Security, a Bechtel-led contractor team, took over management of the

Y-12 nuclear weapons plant effective July 1, 2014 (BWXT, Inc. was the appointed contractor for the Y-12 Plant). DOE awarded its environmental cleanup contract to Bechtel Jacobs from 1997 to 2011. URS-CH2M Oak Ridge took over the cleanup contract in 2011.

*Research*

The extensive energy research and development conducted by private and public agencies make Oak Ridge one of the world's great research centers. The presence of UT the ORNL, Oak Ridge Associated Universities and the Tennessee Valley Authority (the "TVA") makes Oak Ridge a prime location for research facilities, as well as technology-based and conventional manufacturing industries. The facilities in Oak Ridge have attracted a large number of technical professionals and their families. The ORNL campus also houses visiting scientists and researchers that come to work at the world-class facility in an $8.9 million Guest House (built in 2010) with 47 units. Oak Ridge is well prepared to accommodate families from abroad, and the school system is equipped to ease language and cultural differences.

<u>BioEnergy Science Center (the "BESC")</u>. BESC is one of only three sites in the country operated by one of DOE's new bioenergy research centers. It opened in ORNL in 2007. BESC works to accelerate research in the development of cellulosic ethanol and other biofuels and make biofuel production cost competitive on a national scale. The new site received $135 million in federal funding. UTK serves as one of the academic partners, providing specialized instrumentation, plant breeding technologies and new microbe discovery. Energy crops like switchgrass, which can be grown on marginal crop land, can produce affordable, domestic renewable fuel without raising food or feed costs. BESC is dedicated to studying how to economically break down the cellulose in those sources to convert it into usable sugars for ethanol production.

<u>Oak Ridge National Lab (the "ORNL").</u> ORNL is a multiprogram science and technology laboratory managed for DOE by UT-Battelle, LLC. Scientists and engineers at ORNL conduct basic and applied research and development to create scientific knowledge and technological solutions that strengthen the nation's leadership in key areas of science; increase the availability of clean, abundant energy; restore and protect the environment; and contribute to national security. ORNL also performs other work for DOE, including isotope production, information management, and technical program management, and provides research and technical assistance to other organizations. ORNL is a program of DOE's Oak Ridge Field Office.

ORNL also boasts having the Spallation Neutron Source accelerator project and several supercomputers for scientific purposes. These unique projects bring about 3,200 scientists to visit each year for varying periods of time. Numerous small industries have been spun off from the experiments and findings. Each job created is expected to have an impact on housing, retail banking, automobile and transportation, hotels, restaurants, hospitals, and business services.

The world's most powerful neutron science project is the *Spallation Neutron Source* (the "SNS") at ORNL. The giant research complex, which is spread across 75 acres on Chestnut Ridge near the main ORNL campus, is the world's top source of neutrons for experiments. The SNS is an accelerator-based neutron source built in Roane County by DOE. The SNS provides the most intense pulsed neutron beams in the world for scientific research and industrial development. At a total cost of $1.4 billion, construction began in 1999 and was completed in 2006. In 2009, SNS reached full power when it set the world record in producing beam power three times more powerful than the previous world record. More neutrons are produced with a higher beam power.

Neutron-scattering research has a lot to do with everyday lives; for example, things like jets; credit cards; pocket calculators; compact discs, computer disks, and magnetic recording tapes; shatter-proof windshields; adjustable seats; and satellite weather information for forecasts have all been improved by neutron-scattering research. Neutron research also helps researchers improve materials used in high-temperature superconductors, powerful lightweight magnets, aluminum bridge decks, and stronger, lighter plastic products. The medical field is expected to be impacted with new drugs and medicines expected from experiments at the SNS.

ORNL is also completing a series of upgrades at the *High Flux Isotope Reactor*. This ORNL facility is sometimes referred to as the lab's "other" billion-dollar machine. It is the world's most powerful research reactor, and it is used to perform experiments similar to - but different from - those performed at the Spallation Neutron Source.

ORNL's *Supercomputers* are housed in a 170,000-square-foot facility that includes 449 staff and 40,000 square feet of space for computer systems and data storage. The facility will house or has housed four supercomputers - the planned "Summit", the "Titan" (currently the world's second fastest supercomputer), the "Kraken", and the now dismantled "Jaguar" (which at one point was the world's fastest supercomputer). The machines will work on breakthrough discoveries in biology, fusion energy, climate prediction, nanoscience and many other fields that will fundamentally change both science and its impact across society.

DOE awarded IBM an estimated $162 million contract to build the new "Summit" supercomputer (expected to be completed in 2017) at ORNL to be used for a wide range of scientific applications including combustion science, climate change, energy storage and nuclear power. "Summit" is expected to be five times faster than the "Titan" supercomputer already online at ORNL, which was ranked the fastest supercomputer in the world in 2012.

The National Oceanic and Atmospheric Administration (the "NOAA") sponsored the supercomputer "Titan", which was funded with American Recovery and Reinvestment Act of 2009 resources. NOAA awarded Cray and ORNL a $47 million contract to design and build "Titan" to work on climate research. "Titan" was placed online in late 2012 after several years of development and replaced the "Jaguar" supercomputer at ORNL. "Titan" was listed as the world's fastest computer in late 2012, marking the fourth time a computer from ORNL has achieved that distinction since 1953. "Titan's" purpose is to support research in energy, climate change, efficient engines and materials science. "Titan" has been credited as a 17.5-petaflops machine, which means it is capable of a peak performance of about 17,500 trillion (or 17.5 quadrillion) mathematical calculations per second. That speed is about 10 times the capability of the first "Jaguar", which at one time was the world's fastest computer. The total cost of "Titan" was estimated to be about $100 million, but about $20 million was saved by reusing much of the "Jaguar" structure.

A dedicated effort by DOE to transfer technology to the private sector that was heretofore held as proprietary to the U.S. Government alone has led to an unparalleled growth in new business development in the area. Licenses have been granted to existing firms as well as start-up firms to manufacture for commercial use products using state-of-the-art technology in robotics, ceramics and nuclear medicine.

Through interagency agreements, DOE's Oak Ridge facilities have launched a highly successful "work for others" program. Local firms contract with numerous federal agencies to provide services and products. The value of these contracts have grown from approximately $50 million in 1983 to $270 million in recent years.

Tennessee Valley Authority (the "TVA"). TVA provides support, technology, expertise, and financial resources to existing businesses and industries in the area to help them grow and be more efficient and profitable. These resources include technical assistance, low-interest loans, and other tools needed by businesses for successful operation.

University of Tennessee, Knoxville (the "UT" or "UTK"). The University of Tennessee's flagship campus in Knoxville is home to a wide array of vigorous programs doing research on issues vital to the community, the state, the nation, and the world. UTK has collaborative relationships with public and private agencies including ORNL, Battelle Memorial Institute (forming UT-Battelle, LLC), St. Jude Children's Research Hospital, the Memphis Bioworks Foundation, and the Boston-Baskin Cancer group (forming UT Cancer Institute).

National Institute for Mathematical and Biological Synthesis (the "NIMBioS"). NIMBioS is a first-of-its-kind institute dedicated to combining mathematics and biology to solve problems in both scientific fields. The center is funded by a 2008 $16 million award from the National Science Foundation and is located at UTK. A unique aspect of NIMBioS will be its partnership with the Great Smoky Mountains National Park. The park and its Twin Creeks Science Center play a key role in the institute's work, with the park serving as a testing ground for many of the ideas that come from NIMBioS. Partners in NIMBioS include the U.S. Department of Agriculture and the U.S. Department of Homeland Security, IBM and ESRI, a developer of software and technology related to geographic information systems. It draws over 600 researchers each year to Knoxville.

*Source:* City of Oak Ridge, ORNL, Y-12 National Security Complex and the Knoxville News Sentinel.

*Nuclear*

Integrated Facilities Disposition Program. DOE approved a massive $18 billion Oak Ridge cleanup campaign. The cleanup program would demolish more than 400 contaminated building at ORNL and the Y-12 nuclear weapons plant. The program would also focus on mitigating polluted groundwater at the sites and other actions to reduce environmental damage. The work began in 2011 and could take up to 45 years to complete.

In 2015, $424 million was set aside for the environmental cleanup activities in Oak Ridge. The American Recovery and Reinvestment Act of 2009 gave the DOE's Oak Ridge office $1.9 billion for environmental cleanup projects. The $1.2 billion of stimulus money sent directly for projects in Oak Ridge saved or created 3,863 jobs through subcontracting construction-type jobs, as well as technical and specialty positions associated with handling radioactive materials and evaluating environmental risks. The funds were divided among four sites: $239 million to ORNL, $292 million to Y-12, $144 million to East Tennessee Technology Park and $80 million to the Transuranic Waste Processing Center. At Y-12 alone, seven cleanup projects created 2,000 jobs, demolished about 150,000 square feet of old buildings and removed about 74,000 cubic meters of waste.

Y-12 National Security Complex (the "Y-12"). The Y-12 National Security Complex is another large federal plant in Oak Ridge. The ongoing functions of Y-12 are to support the DOE's weapons design labs, recover U-235 from spent nuclear weapons, and provide support to other government agencies.

Y-12 has been undergoing a major modernization program. Y-12 is a key facility in the U.S. Nuclear Weapons Complex and is responsible for ensuring the safety, reliability, and security of the nuclear weapons stockpile and serves as the nation's primary repository of highly enriched uranium. Y-12 houses the country's stockpile of bomb-grade uranium, builds uranium bomb parts and dismantles nuclear weapon systems as needed to support a much smaller nuclear arsenal. National Nuclear Security Administration (the "NNSA") is planning to transform the nuclear weapons complex to be smaller, more efficient and more cost effective. The goal is by 2020 to have only two facilities where there used to be 700 buildings.

In 2016 - two years ahead of schedule - the disposal of over 2,200 containers of stored radioactive and hazardous waste were removed from Y-12. Contractors have demolished dozens of World War II era buildings at Y-12 - about a million square feet since 2001 – in order to reduce the surveillance and maintenance costs and to support new programs. Some new office buildings have been built, including the Jack Case Center that holds about a third of the workforce, or around 1,500 employees. This $58 million, 420,000-square-foot office building was completed in the summer of 2007. A 137,000-square-foot visitor's center and auditorium was also completed in 2007 at a cost of $18 million

A planned $120 Million water treatment plant to capture Y-12 mercury runoff is expected to begin construction in 2017 and begin filtering 1,500 gallons a minute of water by 2020.

Highly Enriched Uranium Materials Facility. The $549 million Highly Enriched Uranium Materials Facility at Y-12, a storage complex for weapons-grade uranium, was completed in late 2008. This storage facility replaced multiple aging facilities and allows for storage of its uranium stocks in one central location that represents maximized physical security with minimal vulnerabilities and operating costs. It is designed to protect the large cache of U-235 against any type of terrorist assault.

Uranium Processing Facility Project (the "UPF"). The Uranium Processing Facility Project, the cornerstone of Y-12's new modernization strategy, will replace current enriched uranium and other processing operations. It will replace Y-12's main production center and cost billions of dollars. The design phase began in 2006, construction began in 2009, and should be operational by 2025. Construction of the UPF will accelerate consolidation of aging facilities, bring production operations currently housed in multiple buildings together, reduce the size of the plant's highest security area by 90 percent, improve the overall security posture, make the plant more secure and save millions of dollars in annual operating costs.

*Source:* City of Oak Ridge, ORNL, Y-12 National Security Complex and the Knoxville News Sentinel.

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*Solar*

Tennessee has seen unprecedented growth in the solar business with the introduction of state and federal incentives for solar power generation (the *Volunteer State Solar Initiative*) and an expansion of the TVA's buy-back program for the power generated by solar and other renewable technologies. The nationwide solar industry grew 69 percent during 2011. In Tennessee, the amount of solar energy being generated went from about one megawatt in 2009 to over 77 megawatts in 2013. In 2015, Knox County announced plans to install 5 megawatts of solar photovoltaic systems on the rooftops of several county buildings to provide more than $29 million in energy savings to the county over the next three decades. (See "RECENT DEVELOPMENTS" for more information.)

Tennessee Solar Institute. Located in Knoxville, the Tennessee Solar Institute is part of the new Volunteer State Solar Initiative with UTK and ORNL. The objective of the initiative will be to find ways of reducing the cost of producing solar energy and ways to store energy until needed. Among other purposes, it brings together scientists, engineers and technical experts with business leaders, policy makers and industry workers to help speed the deployment of solar photovoltaic technology. It is designed to be a home for regional and state initiatives that foster the creation of new businesses.

Tennessee has attracted a several large solar manufactures to the state. A 2011 report by the Tennessee Solar Institute identified more than 200 organizations making up the state's solar industry, including 174 for-profit and 62 nonprofit businesses. Thirty-three of those businesses joined since 2009, with 15 setting up shop in 2010. There are also several more multi-megawatt solar farms either completed or under construction in the state.

Solar Manufacturing Plants. East Tennessee has several manufacturing plants. In East Knoxville Efficient Energy built a 1.2 megawatt solar panel site with Natural Energy Group to be used for local research and education (see "RECENT DEVELOPMENTS"). In Roane County near the ORNL, a smaller array of 200-kilowatts was online in 2012 with plans to expand into the Brightfeld One Project. In Bradley County, the $2.5 billion Wacker Polysilicon plant created 650 jobs to produce silicon used for the solar energy industry. The plant was operational in early 2016. Also in Bradley County, a new $30 million, 9.5-megawatts solar park is providing power to the Volkswagen Plant in Chattanooga. It was the state's largest solar array when it went on line in 2012.

In West Tennessee Sharp Electronics in Shelby County (Memphis) has a large array consisting of nearly 4,160 solar panels for $4.3 million that cover the plant's roof to generate about 200 kilowatts of power. Sharp Electronics also has produced over 2 million solar panels since 2003 and has over 480 employees. The West Tennessee Solar Farm in Haywood County has two solar arrays that came online in 2012: a $31 million, five megawatt generating facility uses more than 21,000 panels, and another solar array that generates 1 megawatts of energy.

*Source:* Memphis Commercial Appeal, the News Sentinel and the University of Tennessee.

## MANUFACTURING AND COMMERCE

Because of its central location in the eastern United States, the Knoxville area serves thousands of industrial and commercial customers in a concentrated eight-state area. It is within 500 miles of approximately one-third of the population of the United States. The City for many years has been known as one of the south's leading wholesale markets. Located within the County and City are approximately 995 wholesale and distribution houses, 1,615 retail establishments and 5,924 service industries.

Brookings Institution in 2016 ranked the Knoxville Metro Area 54th nationally in prosperity, based on growth in jobs, wages and population. Among other Tennessee metro areas, Knoxville was second only to Nashville (10th ranked). In 2015, Forbes magazine listed Knoxville as the second most affordable city in America based on housing prices, living costs and the consumer price index. In 2012, Knoxville was ranked tenth in economic-growth potential and eighth on the nation's fastest-growing cities in the Business Facilities publication.

Economic diversity characterizes Knoxville's landscape of commerce and industry, with companies like media giant Scripps Networks Interactive (HGTV, Food, Travel, DIY, Cooking, and GAC) and Sysco Corporation (largest food service marketer and distributor in North America) calling the area home. Also, there are national and global leaders Clayton Homes, Brunswick Corporation, Keurig Green Mountain, Bush Brothers, Pilot Flying J, and Ruby Tuesday.

The County has seven business parks and a Technology Corridor to meet a wide range of corporate facility needs. The Forks of The River Industrial Park has 1,615 acres with only 49 acres still available. EastBridge Business Park has 800 acres with about 150 acres left for development. WestBridge Business Park has 250 acres with 11 acres left. Pellissippi Corporate Center has about 150 acres with 82 acres left. Hardin Business Park is a light industrial park with the 95 acres and 46 acres still available. CenterPoint Business Park is a commercial park with 60 acres and only 6 acres available. The 44-acre I-275 Business Park was sold to Sysco Corp.

A proposed 275-acre business park off Midway Road was approved by the Metropolitan Planning Commission and the Knox County Commission at the end of 2015. It is expected to be several years before any development occurs, but when complete, it could add about 2,200 new jobs to the area.

The County had about 11,585 businesses and the MSA had 18,406 businesses operating in 2015. In 2015, 2,502 building permits totaled $633,130 million. There were 614 industrial buildings totaling over 32.9 million in square feet in 2014. The vacancy rate for these buildings was 16.4%. The County had 405 manufacturing facilities in 2015 and the MSA had 784 for the same period.

Knoxville-Oak Ridge Innovation Valley Inc. is an investor-directed program for five counties designed to recruit, retain and expand business growth throughout the Innovation Valley region. The organization is focused on technology-led economic development, as well as education and workforce development. These two areas of focus represent key differentiators in this plan of work.

*Source:* Knox News Sentinel and Knox County Metro Planning Commission 2016.

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## LARGEST EMPLOYERS

The major areas of employment in Knox County are the services, retail trade and government. Comparatively, both the state and the nation show a heavier concentration in manufacturing than does Knox County.

The following is a list of the major sources of employment in the Knoxville MSA:

### Ten Largest Employers in the County

| Name | County | Industry | Employment |
|---|---|---|---|
| Covenant Health Alliance[1] | Knox | Health Care | 10,304 |
| Knox County Public Schools | Knox | Education | 7,241 |
| The University of TN, Knoxville | Knox | Education | 6,609 |
| University Health System | Knox | Health Care | 4,941 |
| Tennova Health System[2] | Knox | Health Care | 3,997 |
| K-VA-T Food Stores (Food City) | Knox | Retail | 3,913 |
| State of Tennessee | Knox | Regional Government | 3,153 |
| Knox County | Knox | Government | 2,952 |
| Team Health Inc. | Knox | Healthcare | 2,015 |
| East TN Children's Hospital | Knox | Health Care | 2,000 |

[1] Includes Ft. Sanders Reg Med Center, Parkwest, Methodist Med Center & all other Covenant Hospitals in the area.
[2] Includes all Tennova Health System hospitals in the area.
*Source:* Greater Knoxville Chamber of Commerce and the News Sentinel – 2016.

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## Major Employers in the Knoxville MSA

| Name | County | Industry | Employment |
|---|---|---|---|
| Covenant Health Alliance[1] | Knox | Health Care | 10,304 |
| Knox County Public Schools | Knox | Education | 7,241 |
| The University of TN, Knoxville | Knox | Education | 6,609 |
| Wal-Mart Stores | MSA | Retail | 5,951 |
| University Health System | Knox | Health Care | 4,941 |
| Oak Ridge National Lab[2] | Roane | National Security | 4,559 |
| B&W Y-12[2] | Roane | National Security | 4,300 |
| Tennova Health System[3] | Knox | Health Care | 3,997 |
| K-VA-T Food Stores (Food City) | Knox | Retail | 3,913 |
| Denso[4] | Blount | Automotive Parts | 3,800 |
| State of Tennessee | Knox | Regional Government | 3,153 |
| Dollywood Co.[5] | Sevier | Amusement Park | 3,000 |
| Knox County | Knox | Government | 2,952 |
| Kroger Co | MSA | Retail | 2,952 |
| Clayton Homes | Blount | Mobile Homes | 2,883 |
| McDonalds Corp. | MSA | Restaurant | 2,846 |
| Sevier County Schools | Sevier | Education | 2,500 |
| Blount Memorial Hospital | Blount | Healthcare | 2,418 |
| Team Health Inc. | Knox | Healthcare | 2,015 |
| East TN Children's Hospital | Knox | Health Care | 2,000 |
| Yum! Brands | MSA | Restaurants (KFC, Pizza Hut & Taco Bell) | 1,853 |
| Roark Capital Group | MSA | Restaurants (Arby's, Hardee's & etc) | 1,830 |
| Blount County Schools | Blount | Education | 1,800 |
| U.S. Postal Service | MSA | Mail Service | 1,734 |
| McGhee Tyson ANG Base | Blount | Air National Guard Unit | 1,717 |
| CVS Caremark Inc. | MSA | Retail | 1,673 |
| Pilot / Flying J | Knox | Fuel and Travel Centers | 1,610 |
| Cracker Barrel | MSA | Restaurant | 1,608 |
| Tennessee Valley Authority[6] | Knox | Power | 1,600 |
| Copper Cellar Corp | Knox | Restaurants (Calhoun's & etc) | 1,591 |
| City of Knoxville | Knox | Government | 1,531 |
| United Parcel Service | Knox | Transportation | 1,450 |
| Summit Medical Group | Knox | Health Care Providers | 1,416 |
| U.S. Bancorp. | MSA | Bank | 1,398 |
| Lowe's Home Improvement | MSA | Retail | 1,250 |
| Home Depot | MSA | Retail | 1,228 |
| Shoney's of Knoxville, Inc. | MSA | Restaurant | 1,214 |

| **Name** | **County** | **Industry** | **Employment** |
|---|---|---|---|
| Jewelry Television | Knox | Home-Shopping Cable Network | 1,200 |
| UCOR[2] | Roane | Engineering | 1,176 |
| ALCOA[7] | Blount | Aluminum Ingot, Coiled Steel | 1,160 |
| Old Dominion Freight Line | Jefferson | Transportation | 1,130 |
| Scripps Networks (HGTV) | Knox | Cable Networks | 1,080 |
| Wyndham Hotel Group | MSA | Hotels, Motels, Resorts | 1,056 |
| Hilton Worldwide, Inc. | MSA | Hotels & Resorts | 1,052 |
| Anderson County Schools | Anderson | Education | 1,050 |
| Target Co. | MSA | Retail | 1,045 |
| JTEKT Automotive TN | Monroe | Manufacturing | 1,032 |
| Oak Ridge Associated Universities[2] | Roane | National Security | 1,017 |
| Sears, Roebuck & Co. | MSA | Retail | 1,010 |
| Sitel Worldwide Corp. | Anderson | Interaction Solutions | 1,001 |
| Green Mountain Coffee Roasters | Knox | Manufacture | 1,000 |
| Choice Hotels Int'l, Inc. | MSA | Hotels & Motels | 991 |
| Burleson Brands, Inc. | MSA | Restaurants (Aubrey's, etc) | 975 |
| Knoxville Utilities Board | Knox | Utilities | 964 |
| Jefferson County Schools | Jefferson | Education | 942 |
| Chick-fil-A, Inc. | MSA | Restaurants | 887 |
| Wendy's Co. | MSA | Restaurants | 883 |
| Walgreens Co. | MSA | Retail | 873 |
| Helen Ross McNabb Center | Knox | Mental Healthcare | 855 |
| Darden Restaurants | MSA | Restaurants (LongHorn & Olive Garden) | 855 |
| Roane County Schools | Roane | Public School System | 842 |
| Oak Ridge City Schools | Anderson | Education | 838 |
| Marriott International, Inc. | MSA | Hotels & Extended Stay Resorts | 809 |
| Pellissippi State Tech. College | Knox | Education | 807 |
| SL Tennessee | Anderson | Auto Parts | 790 |
| InterContinental Hotels | MSA | Hotels & Resorts | 785 |
| First Tennessee Bank | Knox | Banking | 776 |
| DineEquity, Inc. | MSA | Restaurants (Applebee's & IHOP) | 764 |

[1] Includes Ft. Sanders Reg Med Center, Parkwest, Methodist Med Center & all other Covenant Hospitals in the area.

[2] Joint venture of University of Tennessee and Battelle. The total employees for all of the ORNL / Y-12 facility is 11,986.

[3] Includes all Tennova Health System hospitals in the area.

[4] Headquarters based in Blount Co., but employment excludes some 874 employees working in McMinn Co.

[5] Employment figure is based on Operating season; it drops to around 300 during the off-season.

[6] Includes Corporate headquarters in Knoxville, Bull Run Steam Plant, Norris and Corryton.

[7] Includes some employees working in Knox Co.

*Source:* Dept. of Economic Development, the News Sentinel & Anderson County Audit - 2016.

## EMPLOYMENT INFORMATION

For the month of November 2016, the unemployment rate for Knoxville stood at 4.3% with 92,400 persons employed out of a labor force of 96,590. For the month of November 2016, the unemployment rate for Knox County stood at 3.9% with 228,300 persons employed out of a labor force of 237,670.

The Knoxville MSA's unemployment for November 2016 was at 4.4% with 402,290 persons employed out of a labor force of 420,630. As of November 2016, the unemployment rate in the Knoxville-Sevierville-Harriman-LaFollette CSA stood at 4.4%, representing 514,250 persons employed out of a workforce of 538,060.

**Unemployment**

| | Annual Average **2011** | Annual Average **2012** | Annual Average **2013** | Annual Average **2014** | Annual Average **2015** |
|---|---|---|---|---|---|
| National | 8.9% | 8.1% | 7.4% | 6.2% | 5.3% |
| Tennessee | 9.2% | 8.0% | 8.2% | 6.7% | 5.8% |
| **Knoxville** | **8.3%** | **7.4%** | **7.8%** | **6.1%** | **5.4%** |
| Index vs. National | 93 | 91 | 105 | 98 | 102 |
| Index vs. State | 90 | 92 | 95 | 91 | 93 |
| **Knox County** | **6.9%** | **6.3%** | **6.6%** | **5.5%** | **4.8%** |
| Index vs. National | 77 | 78 | 89 | 89 | 102 |
| Index vs. State | 75 | 79 | 80 | 82 | 83 |
| **Knoxville MSA** | **7.3%** | **6.6%** | **6.9%** | **6.2%** | **5.4%** |
| Index vs. National | 82 | 82 | 93 | 100 | 102 |
| Index vs. State | 79 | 83 | 84 | 93 | 93 |
| **Knoxville-Sevierville-Harriman CSA** | **8.3%** | **7.5%** | **7.7%** | **6.5%** | **6.5%** |
| Index vs. National | 93 | 93 | 104 | 105 | 123 |
| Index vs. State | 90 | 94 | 94 | 97 | 112 |

*Source:* Tennessee Department of Employment Security, CPS Labor Force Estimates Summary.

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A diversified economy is credited for the stability of local employment and wages. Non-Farm Employment by industry (excluding self-employed) for the Knoxville MSA in 2016:

| Industry | Employment Number |
|---|---|
| **Total Non-Farm Employment** | **391,700** |
| Total Private | 330,900 |
| Total Public | 60,800 |
| **Goods Producing** | **55,500** |
| Mining, Logging, Construction | 18,500 |
| Manufacturing: | 37,000 |
| Durable Goods Manufacturing | 27,200 |
| Nondurable Goods Manufacturing | 9,800 |
| **Service-Providing** | **336,200** |
| Trade, Transportation, Utilities: | 79,600 |
| Wholesale Trade | 16,700 |
| Retail Trade | 47,800 |
| Transportation, Warehousing, Utilities | 15,100 |
| Information | 5,800 |
| Financial Activities | 18,900 |
| Professional and Business Services | 63,300 |
| Educational and Health Services | 51,900 |
| Leisure and Hospitality | 41,300 |
| Other Services | 14,600 |
| Government: | 60,800 |
| Federal | 5,300 |
| State | 20,500 |
| Local | 35,000 |

*Source:* Knoxville-Knox County Metropolitan Planning Commission.

## ECONOMIC DATA

The quality of life, low cost of living and excellent transportation facilities are among the factors that attract firms to the Knoxville area. Telecommunications is a field that is rapidly growing in the area. Several national firms, Hospitality Franchise Systems (Days Inn), Talbots, Whirlpool and Sears have established telecommunication centers in Knoxville. The City has put significant emphasis on attracting companies to the area and on the expansion of existing facilities. Companies which have their corporate headquarters in Knoxville include Pilot Flying J, Clayton Homes, Scripps Networks, Anchor Advanced Products, Inc., Regal Cinemas and Bandit Lites.

*Leisure Boat Manufacturing.* Due to the Tennessee Valley Authority (the "TVA") system of lakes and rivers, East Tennessee is an excellent place to test boats without worrying about hurricanes while being near the Interstate crossroads. Channelization of the Tennessee River to a 9-foot minimum navigable depth from its junction with the Ohio River at Paducah, Kentucky to the City gives the surrounding communities the benefits of year-round, low-cost water transportation and a port on the nation's 10,000-mile-inland waterway system. It takes a week to deliver the yachts too large for the interstate from the reservoir down the series of locks on the Tennessee River, along the Tennessee-Tombigbee Waterway, then on to the Gulf of Mexico and beyond. This system, formed largely by the Mississippi River and its tributaries, effectively links the River with the Great Lakes to the north and the Gulf of Mexico to the south.

Boat manufacturers in the area listed by county are below:

| | |
|---|---|
| Knox County: | Bullet Boats, and Sailabration Houseboats |
| Monroe County: | Sea Ray Boats, Mastercraft Boats, Yamaha-TWI and Bryant Boats |
| Blount County: | Skier's Choice, Allison and Stroker Boats |
| Loudon County: | Malibu Boats and Christensen Shipyards |
| Cumberland County: | Leisure Kraft Pontoons |
| Campbell County: | Norris Craft Boat Company |

*The Pavilion at Turkey Creek (the "Turkey Creek").* Turkey Creek is the largest single commercial development ever built in the metropolitan area of Knoxville. Designed for mixed use and beautifully landscaped, Turkey Creek boasts more than 300 acres of space zoned for retail shopping outlets, medical facilities, theaters, office space, banks, restaurants and hotels. The developers of Turkey Creek also created a 58-acre nature preserve and designed greenways throughout the site. Being only three miles from the junction of Interstate 75 and 40 to the west and 14 miles from downtown Knoxville makes the site a quick drive from the urban center, suburban Knoxville, and rural counties.

Historically, due to the County's predominantly commercial economic base, the County's level of per capita income has exceeded the State level each year. On the following page is a chart showing the per capital personal income for the County, the MSA and the CSA of the area.

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### Per Capita Personal Income

| | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|
| National | $40,277 | $42,453 | $44,266 | $44,438 | $46,049 |
| Tennessee | $35,601 | $37,323 | $39,137 | $39,312 | $40,457 |
| **Knox County** | **$37,673** | **$40,142** | **$42,290** | **$41,752** | **$43,012** |
| Index vs. National | 94 | 95 | 96 | 94 | 93 |
| Index vs. State | 106 | 108 | 108 | 106 | 106 |
| **Knoxville MSA** | $34,799 | $36,850 | $38,557 | $38,359 | $39,530 |
| Index vs. National | 86 | 87 | 87 | 86 | 86 |
| Index vs. State | 98 | 99 | 99 | 98 | 98 |
| **Knoxville-Sevierville-Harriman CSA** | $33,312 | $35,215 | $36,675 | $36,614 | $37,718 |
| Index vs. National | 83 | 83 | 83 | 82 | 82 |
| Index vs. State | 94 | 94 | 94 | 93 | 93 |

*Source:* U.S. Department of Commerce, Bureau of Economic Analysis.

## RECREATION AND TOURISM

Although industry is frequently considered the core of an economic base, secondary and tertiary activities also make important contributions to economic development. The convention and tourist business contribute to the City's economic base in the sense that income is drawn into the region resulting in employment and investment opportunities in tourist-related facilities.

This influx in tourist-related income provides stimulus to economic development in the area. In recognition of the important role tourism plays in the economy of the County, local authorities created Visit Knoxville. The organization's purpose is to encourage tourism and tourist-related activity.

*Sports*. Knox County has over 6,200 acres of park and recreation space, including 25 recreation centers, seven senior citizen centers, three skateparks, ten public golf courses, and approximately 177 miles of greenway and walking trails. Just three miles from downtown is 1,000 forested acres and 50 miles of multiuse trails known as Knoxville Urban Wilderness.

The Tennessee Smokies provide AA minor league baseball in neighboring Sevier County. The Knoxville Ice Bears provide professional hockey at the Coliseum October through March. National championship UTK sports teams, including the 2007 and 2008 NCAA National Champions Lady Vols, draw thousands of enthusiasts to games each year. The City is also home to the Women's Basketball Hall of Fame.

*State and National Parks*. The County is the principal gateway area to the Great Smoky Mountains National Park (the "GSMNP"), located 40 miles to the southeast. The beauty of the Great Smoky Mountains has always attracted visitors to this region. There are over 500,000 acres that make up the nation's most visited National Park, extending over the states of Tennessee and North Carolina. The GSMNP received 10.7 million visitors in 2015, more than twice the number of any other national park in the country. Major attractions in the Smokies are Gatlinburg (40 miles southeast of the City), a tourist town in the mountains with overnight accommodations for 60,000 people, and Pigeon Forge (20 miles southeast of the City), a tourist town at the foothills of the mountain with overnight accommodations for 40,000 people. Numerous restaurants, gift and craft shops, along with ski lodge, ski lifts and tramway, make Gatlinburg a year-round resort town. Pigeon Forge is known for being home to hundreds of retail outlets and Dollywood, a theme park named for the country music singer, Dolly Parton.

Other parks and recreational areas in the Greater Knoxville area include: Big South Fork National River and Recreational Area 100,000 acres; Frozen Head State Natural Area 11,562 acres; Norris Dam State Resort Park 4,000 acres; Big Ridge State Park 3,687 acres; Cumberland Mountain State Park 1,720 acres; Panther Creek State Park 1,400 acres; Cove Lake State Recreational Area 667 acres; Roan Mountain State Resort Park 600 acres; Fort Loudon State Historical Area 500 acres; Indian Mountain State Park 213 acres; Warriors' Path State Recreational Park 500 acres; Trail of the Lonesome Pine: State Scenic Trail 35 miles; and Cumberland Trail: Section II: Tennessee Scenic Trails System Act 31 miles.

*Lakes and Wildlife*. Seven TVA lakes surround Knoxville and provide year-round fishing and boating. There are no closed seasons on TVA waterways. Area lakes provide over 3,425 miles of shoreline and 266 square miles of water surface.

*Alpine Skiing*. Ober Gatlinburg Ski Resort in Sevier County and Cumberland Gardens Resort in nearby Cumberland County offer convenient facilities for winter skiing.

*Conventions, Events and Festivals*. Special seasonal events include the Dogwood Arts Festival in the spring and December's celebration, Christmas in the City. Knoxville supports an active tourism and convention trade with a 500,000-square-foot convention center located downtown at World's Fair Park. Other local facilities are a large civic coliseum/auditorium, two exhibition halls, and UTK's 22,000-seat Thompson Boling Arena.

*Cultural Activities*. The General James White Memorial Civic Auditorium and Coliseum Complex, the historic Tennessee Theatre and the Bijou Theater host a variety of performances, including the Knoxville Symphony Orchestra, touring Broadway productions, ice shows, circuses, concerts of all types and the professional hockey team, The Knoxville Ice Bears. Local radio station WDVX hosts a live radio broadcast weekdays downtown called "The Blue Plate Special" where nationally known artists and area performers appear free of charge.

The University of Tennessee Theaters continue to provide a wealth of entertainment and culture to Knoxvillians. The Clarence Brown Theater, UTK's premier performance space, seats 600 in a proscenium theater. The Clarence Brown Theater Company is dedicated to the classics of the stage and produces three full scale and one or two touring productions each season. The Carousel Theater is UTK's smaller theater which holds 250-300 people.

The Knoxville Museum of Art and the Emporium Center for Arts and Culture feature changing exhibits throughout the year, while the area's libraries, historic sites, and museums, such as East Tennessee History Center, McClung Museum of Natural History and Culture, Museum of Appalachia, and Beck Cultural Center, celebrate regional heritage.

Other popular events in Knoxville are presented by the Knoxville Symphony Orchestra, Knoxville Opera, the Appalachian Ballet Company, Circle Modern Dance Company, Carpert Bag Theatre, Tennessee Stage Company, Tennessee Valley Players, Knoxville Choral Society, and the Tennessee Children's Dance Ensemble, the only professional dance troupe for children in the country.

*Ijams Nature Center*. Ijams Nature Center is a nonprofit environmental education and resource center located on 300 acres on the banks of the Tennessee River in South Knoxville. The area encompasses woods, meadows, sinkholes, a spring-fed pond, and informal perennial gardens connected by a series of trails. The park has been developed to display East Tennessee's ecological systems at work and provide a conservation area for wildlife indigenous to the park. A number of high-quality programs, events, and environmental information are available to schools, the media and the general public.

*Knoxville Zoological Gardens (the "Zoo Knoxville").* Zoo Knoxville is recognized as one of the top 20 zoos in America. It is located on 80 acres and has more than 1,000 species of animals. Zoo Knoxville has the largest "big cat" collection in the United States and is home to the first African Elephant birth in the United States. Zoo Knoxville is also home to the newly developed Gorilla Valley, where three baby gorillas were born during 2015 and 2016. The gorillas are the first of the endangered species to be born at the park and the first born in Tennessee in 30 years. Zoo Knoxville has a collection of red pandas and is the world leader in captive breeding of this rare breed. In addition, a critically endangered red wolf pup was born at the zoo in April 2016; the male pup is the first red wolf born at the zoo in 23 years.

*Source:* Knoxville News Sentinel and the Knox County Metro Planning Commission.

## RECENT DEVELOPMENTS

Following are some recent developments within the boundaries of the City and County and the Knoxville MSA that have had a direct economic impact on the area. The source for statistical information below is the Knoxville Area Chamber Partnership, the City of Knoxville, the Knoxville-Knox County Metropolitan Planning Commission, the Knoxville News Sentinel and The Daily Times.

### EAST KNOX COUNTY

*Brunswick Boat Group.* The Brunswick Boat Group closed the Sea Ray production plant in the Forks of the River Industrial Park in 2012. Production was moved to other Brunswick plants in nearby Monroe County, TN and Florida. About 225 jobs at the plant were lost due to the closing. Headquarters for the Sea Ray division of Brunswick Boat Group were moved to downtown Knoxville. A decline in boat sales led to the layoffs at many East Tennessee plants, totaling 1,000 employees within the company to be let go. Sea Ray Boats moved to the Forks of the River Park in

1978 and in Monroe County in 1983. At one point the company had as many as 2,000 workers in Knox County.

*Nyrstar Tennessee Mines.* Nyrstar Tennessee Mines consists of six mines and two processing plants. East Tennessee and Middle Tennessee each contain three mines and one processing plant. The mines in East Tennessee are in Jefferson and Knox Counties. The Young mine in New Market opened in 1956; the Coy mine in Strawberry Plains was started in 1957; the Immel mine in East Knox County's Mascot community opened in 1965. Zinc from the Young, Coy and Immel mines is widely used to galvanize steel. Nyrstar Tennessee Mines employs 903 workers. In 2014, the six Tennessee mines produced 111,000 metric tons of zinc in concentrate.

*Efficient Energy of Tennessee.* Efficient Energy, in partnership with Natural Energy Group, built a solar panel site in East Knoxville in 2010. The site has more than one megawatt worth of solar panels on a five-acre lot. The 4,608 solar panels can produce nearly 1.2 megawatts of electricity, enough to power about 125 homes. The site will also be a resource for local research and educational organizations, such as the Oak Ridge National Lab, Cleveland State Community College and Pellissippi State Community College.

*Fresenius Medical Care.* The German company Fresenius Medical Care located its East Coast manufacturing facility in Knoxville in 2016. The company is a renal services provider. The $140 million project brings a dialysis production plant to the city’s old Panasonic building and creates about 665 jobs.

*Keurig Green Mountain.* The company started production in late 2008 at a new 334,000-square-foot facility in Forks of the River Industrial Park. The company invested about $55 million dollars on the plant and had a staff of about 25. In 2009, an $8 million investment in the plant added coffee processing equipment and coffee silos. In 2014, Keurig Green Mountain built a $4 million expansion of its Knox County operation to boost efficiency, without many jobs created. Keurig Green Mountain’s Knoxville operation employs about 950 people in 2015. In early 2016, a group of investors led by JAB Holding Company acquired Keurig Green Mountain. Keurig Green Mountain is a privately held company and remains an independent entity run by its existing management team.

*Knox County Detention Center.* The Detention Center in east Knoxville installed over 300 solar panels, five solar storage tanks, 65 concrete pads and more than 6,000 feet of copper piping to make it one of the largest solar thermal systems for domestic use in the nation. Trane, Knox County and FLS Energy partnered to save Knox County $60,000 annually in switching from natural gas to solar power as the primary way to heat water for the detention center’s 1,036 inmates. The project was funded by a $1.88 million grant from the U.S. Department of Energy. The County also renovated and upgraded 40 facilities, 24 parks and 37 traffic intersections with the grant money. The total project is expected to save the County about $6 million annually.

*Leisure Pools.* Leisure Pools, which makes composite swimming pools, announced in 2013 that it was moving its headquarters to Knox County and creating about 240 jobs. The company acquired the old Sea Ray facility in the Forks of the River Industrial Park for about $4.5 million. Many of the laid-off Sea Ray employees have transitioned to the new company since much of the same equipment and systems used by the boat company will be used by Leisure Pools.

*Lifetime Products*. The Utah-based plastics company broke ground in May 2016 on a new $115 million, 720,000-square-foot manufacturing facility at the Forks of the River Industrial Park. The new plant is expected to generate 500 new jobs. This new facility will produce the company's line of water sport products including kayaks and paddleboards, as well as their outdoor Play System line of products.

*Melaleuca.* Located in the Forks of the River Industrial Park, Melaleuca is expanding its operations and will hire up to 500 more workers in the next 10 years. A new 222,000-square-foot distribution center was opened in mid-2010. Melaleuca produces nutritional supplements, cleaning supplies, personal care and other products and sells these through workers who operate as direct marketers. The company has been operating in Knoxville since 1993.

### WEST KNOX COUNTY

*ADT Corporation.* An expansion to ADT's facilities and work force in 2013 resulted in the addition of about 300 more workers to its workforce. ADT provides electronic security for residential and small business customers in the U.S. and Canada. Its Knoxville center has about 300 workers and following a recent upgrade, the facility is now ADT's IT Disaster Recovery Center.

*Cellular Sales Verizon Wireless.* Cellular Sales Verizon Wireless is a Knoxville-based company that operates authorized Verizon Wireless stores nationwide. In 2014, the company expanded its facility in West Knoxville, resulting in 250 new jobs. The company operates nearly 500 stores across the country. The Knoxville-based company is the nation's largest premium Verizon retailer.

*Comcast.* Comcast's call center began hiring 250 new employees in 2015, part of the mass media company's move to enhance nationwide customer care. The jobs will be filled before the end of 2017. The move will allow Comcast to answer more calls in an efficient and timely manner. The expansion is part of a national Comcast hiring wave, with a projected 5,500 new jobs to be created across America within the next three years. The changes have greatly affected the Knoxville branch, a 96,000-square-foot facility that underwent a $7 million dollar facelift in 2015.

*East Tennessee Healthcare Center*. Construction was completed in 2014 on a $119 million proton therapy center in the East Tennessee Healthcare Center. ProNova, a division of Provision Health Alliance, installed three cyclotron parts for its compact proton therapy system. The two-room ProNova SC360 system uses patent-pending superconducting magnet technology to treat cancer patients. It will be the first in the world to treat patients in this manner. The system is smaller and more cost effective than traditional proton therapy systems. The system came online in December of 2014, has gained FDA Clearance, and should begin treating patients in 2017.

The development is situated on 120 acres in the 90,000-square-foot Dowell Springs Business Park, a central location to physicians, hospitals, and area residences. The project has an estimated $1.5 million annual economic impact that will create 1,250 construction jobs and 100 full time employees. Proton therapy is a noninvasive and painless form of precision radiation treatment that has minimal to no side effects. It is expected to treat up to 1,500 patients per year. There are about 10 proton therapy centers operating in the country.

Initial construction of Dowell Springs Business Park was completed in 2009 and includes a $35 million medical office development, consisting of two buildings which offer 175,000 square feet of clinical and office space. The Knoxville Comprehensive Breast Center and Tennessee Cancer Specialists are the anchor tenants of the office space. Plans for the grounds support the East Tennessee Healthcare Center's holistic approach to wellness and healthy living with "walking paths, waterfalls and beautiful mountain views."

*Scripps Networks.* The Travel Channel (part of the Scripps Networks) moved its headquarters from Maryland to Knoxville in 2016. About 100 employees moved with the company. Scripps Network relocated its corporate headquarters in 2010 to the City from Cincinnati. The company's technical center - which includes satellite uplink operations, a control center for all its television networks and a wide range of other administrative, business and creative functions - is also based in the City. Scripps Network is the home of Home and Garden TV network and had revenues totaling $3 billion in 2015.

*TeamHealth.* In 2016, Physician services company TeamHealth announced an expansion of its Knoxville headquarters due to anticipated growth over the next three to five years. The company will invest $6.7 million to construct additional office space adjacent to its current headquarters in west Knoxville. The company also plans to add 250 jobs in Knox County.

*Tennova Healthcare.* Tennova has begun construction on a new $303.5 million hospital in west Knoxville. The 272-bed, five-story facility will replace Physicians Regional Medical Center, formerly called St. Mary's. The new facility is scheduled to open in 2018.

## NORTH KNOX COUNTY

*WS Packaging Group, Inc.* WS Packaging opened a new $43 million expansion in 2014 of its current operations by opening a new location in the PBR building in northwest Knox County. The expansion increased operations and consolidated its Knoxville facilities. The expansion brought 231 new jobs.

## SOUTH KNOX COUNTY

*Baptist Hospital Site.* Demolition of the former Baptist Hospital site was completed in 2015; a $125 million to $150 million redevelopment is currently underway that will include a hotel, apartments, student housing, restaurants and retail. Located on the other side of Fort Loudoun Lake from downtown Knoxville, the former hospital has been mostly vacant for years.

*Cityview at Riverwalk.* A 122-unit waterfront condominium on the site of Knoxville Glove Co. at the South Knoxville waterfront broke ground in spring of 2006 and went into receivership in May 2009. The developers were in default of a $23 million construction loan. The site was sold to developers for about $15 million. The development consists of one-, two- and three-bedroom units, ranging in price from $165,000 to more than $300,000. The total cost of the residential development is about $30.5 million and was completed in 2010. Cityview amenities include a fitness center, covered secured parking and a marina. The 96-slip marina has been approved by TVA, and some slips are to be sold to the public.

*Regal Entertainment Group.* Currently headquartered in North Knox County, Regal Entertainment Group intends to move its corporate headquarters to a nine-story office building on the former Baptist Hospital site on Knoxville's south waterfront. The move will add 70 additional jobs. Regal Cinemas opened four new IMAX locations across the country in 2010. Regal has an agreement with IMAX Corporation. Regal Cinema's Pinnacle 18 opened an $18 million megaplex in 2005 in Turkey Creek. The 18-screen theater encompasses over 82,000 square feet. Regal Cinemas is one of the nation's fastest growing theater companies.

## DOWNTOWN BUSINESS DISTRICT

*Community Health Alliance.* The nonprofit insurer, Community Health Alliance, announced in November 2015 that it would cease offering insurance coverage in 2016, resulting in 148 lay offs at the end of 2015.

*Converted Apartments.* Several notable downtown buildings have been converted into apartment spaces. A former office property, the Medical Arts Building, was converted to 49 apartments with some retail spaces in 2014. It is located close to the courthouses and has an attached parking garage. The Tailor Lofts building on Gay Street was also converted into nine apartments plus a ground-floor restaurant.

*East Tennessee Children's Hospital.* The non-profit Children's Hospital completed a $75 million expansion in November 2016. The expansion offers over 245,000 square feet of new space, including a 44-bed, private room Neonatal Intensive Care Unit, a new perioperative surgery center, two levels of parking and enhanced family areas, such as roof-top gardens. Additional renovations to 71,900 square feet of the original building has an expected completion date of Fall 2017.

*Farragut Hotel.* Dover Development Corporation received an incentive package from the Knoxville Industrial Development Board in 2015 to freeze the property taxes at their current rate before the property is redeveloped. Demolition began in late 2015 and plans call for four storefronts. Hyatt Place will open a hotel in the historic building in Spring 2017.

*Fort Sanders Apartments.* A Georgia firm bought up property near the Fort Sanders Hospital for $6.3 million to build 240 student apartments. Construction began in 2015 and is expected to be completed in early 2017.

*Gulf & Ohio Railways.* The Knoxville Locomotive Works operation of the Gulf & Ohio Railways, a Knoxville-based short line railroad, renovated its existing facility to begin producing locomotives based on its fuel-efficient prototype. This $6 million expansion created 203 jobs for the company and was operational in 2014.

*Local Motors.* Local Motors will produce its newest car, the LM3D Swim, at a Knoxville factory slated to open in early 2017. The Knoxville site is the company's first digitally enabled microfactory, meaning it can 3-D print finished pieces directly from digital designs with no tooling or casting. The LM3D Swim will be manufactured mostly through 3-D printing with some traditionally made automotive components. The Knoxville factory will launch with four or five 3-D printers and have the capacity to produce about 2,400 vehicles a year. The factory will also serve as a retail showroom, along with the company's Market Square storefront. The car is expected to cost about $53,000, depending on customization choices.

*Marble Alley Lofts.* Just off Gay Street, a developer began construction in 2014 on a 238-unit apartment complex. The project was in development since 2009. The first phase of construction, completed in February 2016, includes an internal parking garage with the apartment building foundations built surrounding the garage. Additional retail and commercial space is planned for the second phase.

*Solar Arrays on County-Owned Buildings.* In 2015, the County announced plans to install 5 megawatts of solar photovoltaic systems on the rooftops of several County buildings. The $12.5 million project is expected to provide more than $29 million in energy savings to the county over the next three decades. Along with the Knox County Central building, a total of 11 schools and three other public buildings will have solar panels. The entire project would support more than 125 jobs during the installation phase. The solar array at the L&N Stem Academy will be connected to a kiosk so that students can participate in monitoring the system.

*Tennessee Valley Authority (the "TVA").* TVA was established as a wholly-owned corporate agency and instrumentality of the United States of America by the Tennessee Valley Authority Act of 1933 (the "TVA Act"), as amended. The TVA Act's objective is the development of the resources of the Tennessee Valley and adjacent areas in order to strengthen the regional and national economy and the national defense. Its specific purposes include: (1) flood control on the Tennessee River and its tributaries, and assistance to flood control on the lower Ohio and the Mississippi Rivers; (2) a modern navigable channel for the Tennessee River; (3) ample supply of power within an area of 80,000 square miles; (4) development and introduction of more efficient soil fertilizers; and (5) greater agricultural and industrial development and improved forestry in the region. TVA, a corporation owned by the U.S. government, provides electricity for utility and business customers in most of Tennessee and parts of Alabama, Mississippi, Kentucky, Georgia, North Carolina and Virginia — an area of 80,000 square miles with a population of 9 million. The utility operates 29 hydroelectric dams, 8 coal-fired power plants, three nuclear plants, 16 natural gas-fired power facilities, 14 solar energy sites, and one wind energy site and supplied 158 billion kilowatt-hours of electricity in fiscal year 2015.

In 2014, 750 employees voluntarily retired or resigned from TVA. Another 1,000 vacant positions were eliminated to result in the largest staff reduction that the federal utility has undergone in more than 20 years. The goal was to reduce $500 million in annual expenses in 2015.

In April of 2011, TVA announced plans to retire 18 coal-fired units at three of its older fossil plants, effectively closing one of the plants. This action is in an unprecedented agreement with the Environmental Protection Agency, four states and three environmental groups to settle complaints that the federal utility violated the Clean Air Act. TVA's board of directors approved the shutdown of two units at the John Sevier plant near Rogersville, TN, six at Widows Creek in North Alabama and all 10 units at the Johnsonville plant in Middle Tennessee. The permanent shutdowns, called retirements, will take place in phases through 2017 and will affect 300 to 400 workers. The combined idled and retired units will reduce TVA's coal-fired capacity by 2,700 megawatts out of the total 17,000 megawatts generated by the country's largest public utility. The utility also has to invest $3 billion to $5 billion on pollution controls and $350 million on clean energy projects. Penalties include a $1 million to the National Park Service and the National Forest Service and a civil penalty of $10 million to various entities, including the states of Alabama, Kentucky and Tennessee.

The Unit 2 reactor at Watts Bar Nuclear Plant in Rhea County, TN was granted an operating license in October of 2015, nearly 43 years after the original construction permit was awarded. The license allows TVA to load nuclear fuel into the new unit and begin testing of the equipment. Total estimated project cost reached $4.7 billion, and the reactor began producing power for commercial consumption in 2016.

In 2007, TVA restarted a nuclear reactor at Browns Ferry in North Alabama. It was the first time the reactor had been at full power in 22 years. TVA spent five years and about $2 billion revamping the reactor. It was the first increase in the United States' nuclear generating capacity since 1996.

## UNIVERSITY OF TENNESSEE

The University of Tennessee Knoxville Campus is undergoing a record $1 billion makeover to transform the look and feel of the campus. As of mid-2015, about one-fourth of the university's footprint was under construction in an effort to improve facilities and infrastructure to become a Top 25 public research institution.

*Cherokee Campus.* The Cherokee Farm concept came into being in 2001 as a way to further research by UT and ORNL in computational sciences, climate and environment, advanced materials, biomedical sciences, and renewable energy. UT and ORNL started development of the campus with $87 million in capital investments and incentives. This is part of a UT goal to join the ranks of the nation's top 25 public research universities. The former site of UT's 188-acre dairy operation was chosen and development of 77 acres of the property began in 2010. The farm is less than a mile from the Knoxville campus.

The first building, the $47 million, 142,000-square-foot Joint Institute for Advanced Materials facility, opened in early 2016. The rest of the campus will include 16 building sites. These sites, ranging up to 2 acres, should allow a total of 1.6 million square feet of development. Moving research to the Cherokee campus would free up buildings on the main campus, which could be renovated and used for additional administration and instructional space.

The Joint Institute for Advanced Materials building will house seven high-powered microscopes that researchers from UT, ORNL and elsewhere will use in screening and analyzing materials. The work is oriented toward producing strong, lightweight materials for the automotive and aerospace industries. Researchers will also be able to make use of supercomputers "Kraken" at UTK and "Titan" at ORNL.

The first private tenant at Cherokee Farm was announced in May 2016. Civil and Environmental Consultants, Inc. (CEC) is recognized for providing innovative design solutions and integrated expertise in the primary practice areas of civil engineering, ecological sciences, environmental engineering and sciences, survey, waste management and water resources.

*Classroom and Science Laboratory Facility.* A new 22,000-square-foot, $5 million building will house a classroom and science laboratory facility. It is expected to be completed in 2018. It will house research laboratories, a vivarium, classrooms, and faculty offices. It will be between the Jessie Harris Building and the Hoskins Library.

*Ken and Blaire Mossman Building.* Situated on the former site of three historic houses in the Fort Sanders area, the building will house portions of microbiology, biochemistry, cellular and molecular biology, psychology and nutrition. The $96 million project is expected to be completed Fall 2018.

*Min H. Kao Electrical Engineering and Computer Science Building.* The first new engineering building on the UTK campus in nearly 50 years opened in early 2012. The $37.5 million, 150,000-square-foot building consolidates engineering students into one building for classrooms and labs.

*Science Laboratory Facility.* In early 2015, construction began on the new Science Laboratory Facility, a $114 million nine-story modern science class and laboratory facility at the Strong Hall dormitory site. It will feature 500-seat and 250-seat lecture halls, general purpose classrooms and house the Anthropology and Earth and Planetary Sciences departments. It is expected to be completed in Spring 2017.

*Steam Plant Conversion.* The coal-fired boilers have been removed and replaced with natural gas boilers at the steam plant on campus. The large smokestacks were removed. The conversion cost $25 million and was completed in Summer 2016.

*Stokely Athletic Center and Dorm Gibbs Hall.* In 2014, demolition was completed on the closed and outdated buildings that were Stokely Athletic Center and Gibbs Hall. The Stokely Athletic Center, the home of the basketball team before the move to the Thompson-Boling Arena, was built in 1958 and was closed in 2012. The Dorm Gibbs Hall was built in 1963 with only the dining services remaining operational in recent years. First, a 1,000-space parking garage was built along Volunteer Boulevard, costing $38 million. Second, UTK built a 600 bed co-ed resident hall with added services like dining. At a cost of $94.3 million, construction was completed in January 2017. And third, an extension to the current Haslam football practice field is planned. According to UTK, a sole private donation will fund the $10 million project. That is expected to start in 2017.

*Student Union.* The new 391,000-square-foot, six-story, $167 million Student Union project began construction in 2014 and will be completed in Spring 2018. It will replace the outdated University Center that was originally built in 1952. It will hold a 50,000-square-foot bookstore, ten dining establishments, a 10,000-square-foot auditorium and a 12,000-square-foot ballroom.

*Support Services Complex.* Completed in Spring 2016, the new Support Services Complex is a $18.7 million complex that reuses a former industrial facility to house the 91,000-square-foot Department of Facilities headquarters and other units. It will feature offices, warehouses, workshops, labs and fleet parking.

*Torchbearer Plaza / Circle Park.* The $1.2 million renovation project on the Torchbearer statue at Circle Park was completed in September 2015. The project rebuilt and enlarged the plaza area while renovating the landscaping and lighting.

*University Health System.* A new $25 million Cancer Institute was completed in October 2012. The new building almost tripled the size of the existing facility to 100,000 square feet. It is located adjacent to the current facility. Also in 2012 the UT Graduate School of Medicine completed the first phase of an $8 million project that will expand and renovate its family medicine clinic and academic training facility.

The new Heart Hospital was opened in 2010. The four-story, 126,000-square-foot, $26 million facility will serve the inpatient needs of the hospital's Heart Lung Vascular Institute. Just like the 103,000-square-foot Heart Lung Vascular Institute, which opened in 2004, the new tower also will promote medical staff collaboration and offer multi-disciplinary care to patients. UT Medical Center is the area's only teaching hospital and Level One trauma center.

*University of Tennessee Veterinary Hospital.* An expansion and renovation of the Veterinary Medical Center's Equine and Farm Animal Hospitals began in 2011. Completion of the $21 million project on the agriculture campus was in December 2012. The $8 million expansion for the small animal clinic was completed in 2008. UT's veterinary hospital treats about 35,000 animals annually.

*West Housing Redevelopment.* The West Housing Redevelopment project is a multiphase, $234 million project to replace the dining facilities and six residence halls (North Carrick, South Carrick, Reese, Humes, Morrill, and Andy Holt Apartments) with seven new halls and a community dining facility on the Presidential Court Complex. The first new residence hall to be built in 43 years, Fred Brown Residence Hall, opened for the 2014-2015 semester. The others are scheduled to be finished by 2019.

*William M. Bass Forensic Anthropology Building.* A new building on the campus of the UT Medical Center was dedicated to one of the world's foremost forensic anthropologists, Dr. William Bass. The new, privately funded building will enhance research programs and provide classroom facilities for UT students and the many law enforcement, fire and medical professionals who train at the adjacent Anthropological Research Facility, also known as the Body Farm. The Body Farm was created by Dr. Bass in 1981 and has trained more than a quarter of the nation's board-certified forensic anthropologists, who serve in key roles in government, museums and private sector jobs.

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# CONSOLIDATED SYSTEMS
# REPORT OF INDEPENDENT AUDITORS AND FINANCIAL STATEMENTS

Knoxville Utilities Board

# Consolidated

## Financial Statements and Supplemental Information
## June 30, 2016 and 2015

# Knoxville Utilities Board
## Index
## June 30, 2016 and 2015

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# Report of Independent Auditors

Board of Commissioners
Knoxville Utilities Board
Knoxville, Tennessee

We have audited the accompanying financial statements of the Knoxville Utilities Board (KUB), a component unit of the City of Knoxville, Tennessee, as of and for the years ended June 30, 2016 and 2015, and the related notes to the financial statements, which collectively comprise KUB's basic financial statements as listed in the index.

**Management's Responsibility for the Financial Statements**

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

**Auditor's Responsibility**

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to KUB's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of KUB's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

**Opinion**

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of KUB as of June 30, 2016 and 2015, and the changes in financial position and cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Board of Commissioners
Knoxville Utilities Board
Knoxville, Tennessee

**Other Matters**

*Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 3 through 26 and the required supplementary information on pages 62 through 64 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

*Other Information*

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise KUB's basic financial statements. The schedule of insurance in force is presented for purposes of additional analysis and is not a required part of the basic financial statements. The schedule of expenditures of federal awards and state financial assistance is presented for purposes of additional analysis as required by Title 2 U.S. *Code of Federal Regulations* (CFR) Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* and the State of Tennessee Comptroller of the Treasury Office and is also not a required part of the basic financial statements.

The schedule of expenditures of federal awards and state financial assistance is the responsibility of management and was derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the schedule of expenditures of federal awards and state financial assistance is fairly stated in all material respects in relation to the basic financial statements as a whole.

The schedule of insurance in force has not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we do not express and opinion or provide any assurance on it.

**Other Reporting Required by Government Auditing Standards**

In accordance with *Government Auditing Standards*, we have also issued our report dated October 27, 2016, on our consideration of KUB's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering KUB's internal control over financial reporting and compliance.

Coulter & Justus, P.C.

Knoxville, Tennessee
October 27, 2016

Knoxville Utilities Board (KUB), comprised of the Electric Division, Gas Division, Water Division, and Wastewater Division (Divisions), is reported as a component unit enterprise fund in the financial statements of the City of Knoxville. KUB's responsibility is to oversee the purchase, production, distribution, and processing of electricity, natural gas, water, and wastewater services. A seven-member Board of Commissioners (Board) governs KUB. The Board has all powers to construct, acquire, expand, and operate the Divisions. It has full control and complete jurisdiction over the management and operation of the Divisions, including setting rates. KUB's accounts are maintained in conformity with the Uniform System of Accounts of the Federal Energy Regulatory Commission (FERC), the Uniform System of Accounts of the National Association of Regulatory Utility Commissioners (NARUC), and the Governmental Accounting Standards Board (GASB), as applicable.

This discussion and analysis is designed to (a) assist the reader in focusing on significant financial issues, (b) provide an overview of KUB's financial activity, (c) identify major changes in KUB's financial position, and (d) identify any financial concerns.

The Management Discussion and Analysis (MD&A) focuses on the fiscal year ending June 30, 2016 activities, resulting changes and current known facts, and should be read in conjunction with KUB's consolidated financial statements.

## Consolidated Highlights

## System Highlights

As of June 30, 2016, KUB served 451,896 customers. KUB added 3,951 new customers in fiscal year 2016, representing growth of less than one percent.

KUB's electric system experienced a record peak in demand of 1,328 megawatt hours in February 2015. KUB's electric system had a strong year for reliability with only 1.82 hours of service interruption for the average customer in fiscal year 2016. The natural gas system's peak demand occurred February 2015 at 136,356 dekatherms.

The second of three annual rate increases for each Division previously adopted by the KUB Board of Commissioners went into effect in fiscal year 2016. These rate increases provide additional revenue to help fund each system's respective Century II infrastructure program.

KUB's electric system was impacted by an ice storm event in February 2015 that resulted in a cost of $2 million to the system. KUB received $1.6 million in reimbursements in fiscal year 2016 from the Federal Emergency Management Agency (FEMA) to offset the cost of the 2015 event.

KUB's electric system was awarded the Diamond level designation by the American Public Power Association's (APPA) Reliable Public Power Provider (RP3) program, the highest level of recognition of the program.

KUB's energy sales in fiscal year 2016 were impacted by the second mildest winter in Knoxville over the last forty years. Natural gas sales dropped approximately 10 percent from the prior year and electric sales volumes declined approximately 3 percent.

KUB's treatment plants continue to meet high standards of operation. KUB's Kuwahee, Eastbridge, Loves Creek and Fourth Creek wastewater treatment plants were awarded Operational Excellence awards from the Tennessee Kentucky Water Environment Association for having one or less permit violations within the 2015 calendar year. The treatment plants additionally won awards at various levels based on performance from the National Association of Clean Water Agencies for peak performance. The

Eastbridge wastewater treatment plant was awarded a Platinum award for continued outstanding compliance performance over multiple years. Kuwahee and Loves Creek wastewater treatment plants won Gold Awards for having no permit violations in 2015 and the Fourth Creek wastewater treatment plant was awarded Silver for having only one permit violation in 2015.

KUB continued to maintain certification with the National Biosolids Partnership following a rigorous review process and independent audit that was conducted in December 2015. (Biosolids are nutrient-rich organic matter produced by wastewater treatment that can be recycled as fertilizer).

## Century II Infrastructure Program

Century II is KUB's proactive long-range program to improve and maintain the electric, natural gas, water and wastewater systems for its customers. It includes maintenance and asset replacement strategies for each system and establishes sustainable replacement cycles. Century II moves KUB into its second century of service by improving each system through sound planning, resource allocation, and continued, but accelerated, investment.

KUB's Century II programs were resumed in 2011, after a break due to the economic recession. At that time, the KUB Board of Commissioners endorsed ten year funding plans for the electric and water systems, which include a combination of rate increases and debt issues to fully fund the Century II programs. The Board adopted three years of electric and water rate increases to help fund those plans. All three of those rate increases, adopted in 2011, have gone into effect.

In 2013, the Board extended the funding approach for Century II to include the natural gas and wastewater systems. The Board formally endorsed and adopted by resolution, ten year funding plans for the natural gas and wastewater systems, which include a combination of rate increases and debt issues.

In April 2014, KUB management provided the Board an updated assessment of the overall condition of each utility system, including a recommendation for annual rate increases for each division for the next three fiscal years.

In June 2014, the Board approved the proposed three annual rate increases for all KUB Divisions, of which the first and second rate increases have gone into effect. The remaining electric rate increase will generate $5.2 million in additional annual revenue, while the gas rate increase will generate $1.8 million in additional annual revenue. The remaining water rate increase will produce $2 million in additional annual revenue and wastewater will produce $4.7 million of additional annual sales revenues.

In fiscal year 2015, KUB concluded the smart grid pilot project, of which a portion of the project was funded by a United States Department of Energy Smart Grid Investment Grant (SGIG). This grant was received by KUB in 2009 as part of the American Reinvestment and Recovery Act (ARRA). Based upon the success of that pilot, KUB formed a plan to move forward with a Century II Grid Modernization initiative, which includes advanced metering for all KUB customers, a telecommunication system linking critical KUB infrastructure, and an increased investment in automation technology to help operate KUB's energy and water distribution systems.

KUB is in the process of implementing a 15-year initiative to ensure KUB will continue to provide high-quality, reliable water service to its customers over the long-term. KUB maintains a single water treatment plant for its system. In lieu of building a second treatment facility to ensure capacity will be available to meet the needs of current and future water customers, KUB will invest approximately $120 million in various redundant facilities at its existing Mark B. Whitaker Water Treatment Plant over the next 11 years.

For the fiscal year, KUB stayed on track with its overall Century II capital budget and production goals. 2,208 poles and 13.3 miles of underground electric cable were replaced for the electric system. 4.2 miles of cast iron/ductile iron gas main were replaced for the natural gas system. 14.3 miles of galvanized water main and 7.2 miles of cast iron water main were replaced for the water system. 28 miles of wastewater system main were rehabilitated or replaced.

The natural gas South Loop project was completed in October 2015, which included the installation of a new 8 mile transmission main in the southwest portion of KUB's service territory. The South Loop will provide additional system capacity to meet the increased natural gas demands of the University of Tennessee, in addition to other potential growth opportunities in that portion of KUB's gas service territory.

## Consent Decree

In February 2005, a Consent Decree was entered into federal court regarding the operation of KUB's wastewater system. Under the terms of the Consent Decree, the remediation of identified sanitary sewer overflows (SSOs) on KUB's wastewater system had to be completed by June 30, 2016. KUB completed all the requirements of the Consent Decree for the collection system two years in advance of the deadline.

The Consent Decree also required KUB to perform an evaluation of the wet weather performance and capacity of its wastewater treatment plants. In July 2007, KUB submitted a Composite Correction Plan (CCP) for its wastewater treatment plants to EPA for review. The development and filing of the CCP was a requirement of the federal order of February 2005. The CCP includes recommended improvements to KUB's Kuwahee and Fourth Creek treatment plants to address wet weather capacity issues noted in prior assessments. The EPA approved the CCP in January 2009 including a recommended schedule of plant improvements that extends beyond the expiration date of the original Consent Decree. An amendment to the Consent Decree incorporating and establishing this schedule was agreed to by all parties and was entered on June 23, 2009. The purpose of the Amendment is to allow KUB to complete a portion of work outlined in the CCP after the Consent Decree deadline of June 30, 2016. The CCP provides for a biologically enhanced high-rate clarification (the BEHRC) secondary treatment system to be installed at the Fourth Creek treatment plant by June 30, 2018 and at the Kuwahee treatment plant by June 30, 2021. The total cost of such improvements is estimated to be approximately $120 million.

KUB's funding plan for the Consent Decree includes long-term bonds and a series of rate increases phased in over the term of the order. Bond proceeds fund all types of wastewater capital projects, the majority of which are related to the Consent Decree. As of June 30, 2016, the Wastewater Division had issued $485 million in bonds to fund system capital improvements since the inception of the Consent Decree. The Board previously approved two 50 percent rate increases, which went into effect in April 2005 and January 2007. The Board also approved an 8 percent rate increase, which was effective in September 2008, two 12 percent rate increases, which were effective in April 2011 and October 2012, and three 6 percent rate increases effective October 2014, October 2015 and October 2016. KUB anticipates additional bond issues and rate increases over the next decade to help fund wastewater capital improvements.

KUB successfully completed the first cycle of Maintenance Operation Management (MOM) requirements one year before the deadline by inspecting 99.5% of manholes and gravity mains, smoke testing 99.9% of gravity mains, performing required inspections of pump stations and the related force mains, and completing all Corrective Action Plan/Engineering Report (CAP/ER) projects. KUB initiated the second MOM cycle that continues to focus on the prevention of SSOs. As part of the Century II initiative, formally known as the PACE10 program, KUB has installed storage tanks providing 34 million gallons of wastewater storage to control wet weather overflows and rehabilitated or replaced approximately 334.9 miles of collection system pipe. KUB also continues to maintain a proactive operations and maintenance plan for the wastewater collection system including inspection, grease control, and private lateral enforcement. The result of the PACE10/Century II initiative has been an 82 percent reduction in SSOs.

As of June 30, 2016, the Wastewater Division had completed its twelfth full year under the Consent Decree, spending $529.5 million on capital investments to meet Consent Decree requirements. During fiscal year 2016, the Wastewater Division incurred $37.3 million in total expenditures related to Consent Decree requirements, including $3.3 million for operating costs and $34 million in capital improvements which included the rehabilitation or replacement of 28 miles of wastewater main. During the fiscal year, $26.5 million was spent on sewer mini-basin rehabilitation and replacement. Trunk line rehabilitation and replacement accounted for $2 million of capital expenditures, while pump station improvements accounted for $4.6 million.

## Financial Highlights

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

KUB's consolidated net position increased $34 million. This increase was $2 million less than the prior year's change in net position. A restatement to the fiscal year 2014's net position based on a change in method of accounting for the pension reduced the total net position by $0.8 million during fiscal year 2015. This change resulted in a net increase of $35.2 million or 3.9 percent in KUB's consolidated net position in fiscal year 2015.

Operating revenue decreased $30.3 million or 4 percent, the result of lower electric and natural gas sales volumes offset in part by additional revenues from system rate increases and a modest increase in billed water sales and wastewater volumes. Purchased energy expense (power and natural gas) decreased $39.9 million or 8.3 percent, the combined effect of $17.4 million decrease in purchased power and a decrease of $22.5 million in purchased gas. Margin from sales (operating revenue less purchased energy expense) was up $9.5 million or 3.3 percent compared with the prior fiscal year.

Operating expenses (excluding purchased power and purchased gas expense) increased $9.6 million, or 4.5 percent. Operating and maintenance (O&M) expenses were $1.2 million or one percent higher than the previous year. Depreciation expense increased $6.7 million or 10.8 percent. Taxes and tax equivalents increased $1.8 million or 6 percent, reflecting higher plant in service levels.

Interest income was $0.5 million more than the prior fiscal year. Interest expense increased $1.2 million or 3.1 percent, reflecting interest costs on revenue bonds issued during fiscal year 2015 to fund system capital improvements.

Capital contributions increased $0.6 million, the result of more contributed assets from developers.

Total plant assets (net) increased $92 million or 5.6 percent over the last fiscal year.

Long-term debt represented 50.4 percent of KUB's consolidated capital structure, compared to 52 percent last fiscal year. Capital structure equals long-term debt (including the current and long-term portion of revenue bonds and notes), plus net position.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

KUB's consolidated net position increased $36 million. This increase was $6.2 million greater than the prior year's change in net position. A restatement to the prior fiscal year's net position based on a change in method of accounting for the pension reduced the total net position by $0.8 million during fiscal year 2015. This change resulted in a net increase of $35.2 million or 3.9 percent in KUB's consolidated net position.

Operating revenue increased $12 million or 1.6 percent, the result of additional revenue from electric, gas, water, and wastewater rate increases and modest increases in natural gas, water, and wastewater sales volumes. Purchased energy expense (power and natural gas) decreased $4.9 million or 1 percent, the net effect of $0.7 million increase in purchased power and a decrease of $5.6 million in purchased gas. Margin from sales (operating revenue less purchased energy expense) was up $16.9 million or 6.3 percent compared with the prior fiscal year.

Operating expenses (excluding purchased power and purchased gas expense) increased $12 million, or 5.9 percent. Operating and maintenance (O&M) expenses were $3.6 million or 3 percent higher than the previous year. Depreciation expense increased $5.8 million or 10.4 percent. Taxes and tax equivalents increased $2.6 million or 9.4 percent, reflecting higher plant in service levels and a property tax increase by the City of Knoxville.

Interest income was consistent with the prior fiscal year. Interest expense increased $0.9 million or 2.5 percent, reflecting interest costs on $163 million in revenue bonds issued during the fiscal year to fund system capital improvements.

Capital contributions decreased $0.1 million, the result of less contributed assets from developers.

Total plant assets (net) increased $102.3 million or 6.6 percent over the last fiscal year.

KUB sold six series of revenue bonds during fiscal year 2015 for the purpose of funding capital improvements totaling $163 million. The $85 million bond issue in April 2015 was accelerated to take advantage of the low interest rate environment which impacted the debt ratio and debt service coverage levels for fiscal year 2015. Long-term debt represented 52 percent of KUB's capital structure, compared to 49.2 percent last year. Capital structure equals long-term debt (including the current and long-term portion of revenue bonds and notes), plus net position.

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## Knoxville Utilities Board Consolidated Financial Statements

KUB's financial performance is reported under three basic consolidated financial statements: the Statement of Net Position; the Statement of Revenues, Expenses and Changes in Net Position; and the Statement of Cash Flows.

### Statement of Net Position

KUB reports its assets, deferred outflows of resources, liabilities, deferred inflows of resources and net position in the Statement of Net Position. Assets are classified as current, restricted, plant in service, or other assets.

Liabilities are classified as current, other, or long-term debt. Net position is classified as net investment in capital assets; restricted; or unrestricted. Net position tells the user what KUB has done with its accumulated earnings, not just the balance.

Net investment in capital assets reflects the book value of all capital assets less the outstanding balances of debt used to acquire, construct, or improve those assets.

Restricted net position includes assets that have been limited to specific uses by KUB's bond covenants or through resolutions passed by the KUB Board.

Unrestricted net position is a residual classification; the amount remaining after reporting net position as either invested in capital or restricted is reported there.

### Statement of Revenues, Expenses and Changes in Net Position

KUB reports its revenues and expenses (both operating and non-operating) on the Statement of Revenues, Expenses and Changes in Net Position. In addition, any capital contributions or assets donated by developers are reported on this statement.

Total revenue less total expense equals the change in net position for the reporting period. Net position at the beginning of the period is increased or decreased, as applicable, by the change in net position for the reporting period.

The change in net position for the reporting period is added to the net position segment of the Statement of Net Position.

### Statement of Cash Flows

KUB reports cash flows from operating activities, capital and related financing activities, and investing activities on the Statement of Cash Flows. This statement tells the user the sources and uses of cash during the reporting period.

The statement indicates the beginning cash balance and ending cash balance and how it was either increased or decreased during the reporting period.

The statement also reconciles cash flow to operating income as it appears on the Statement of Revenues, Expenses and Changes in Net Position.

## Condensed Financial Statements

### Statement of Net Position

The following table reflects the condensed consolidated Statement of Net Position for KUB compared to the prior year and the year preceding the prior year.

**Statements of Net Position**
**As of June 30**

| *(in thousands of dollars)* | 2016 | 2015 | 2014 |
|---|---|---|---|
| Current, restricted and other assets | $ 318,650 | $ 413,061 | $ 347,698 |
| Capital assets, net | 1,743,105 | 1,651,147 | 1,548,874 |
| Deferred outflows of resources | 34,235 | 28,388 | 12,252 |
| Total assets and deferred outflows of resources | 2,095,990 | 2,092,596 | 1,908,824 |
| Current and other liabilities | 159,519 | 152,535 | 161,523 |
| Long-term debt outstanding | 972,366 | 1,005,062 | 853,887 |
| Deferred inflows of resources | 1,512 | 6,378 | - |
| Total liabilities and deferred inflows of resources | 1,133,397 | 1,163,975 | 1,015,410 |
| Net position | | | |
| Net investment in capital assets | 772,012 | 650,464 | 688,374 |
| Restricted | 16,201 | 14,892 | 13,163 |
| Unrestricted | 174,380 | 263,265 | 191,877 |
| Total net position | $ 962,593 | $ 928,621 | $ 893,414 |

### Normal Impacts on Statement of Net Position

The following is a description of activities which will normally impact the comparability of the Statement of Net Position presentation.

- Change in net position (from Statement of Revenues, Expenses and Changes in Net Position): impacts (increase/decrease) current and other assets and/or capital assets and unrestricted net position.
- Issuing debt for capital: increases deferred outflows of resources and long-term debt.
- Spending debt proceeds on new capital: reduces current assets and increases capital assets.
- Spending of non-debt related current assets on new capital: (a) reduces current assets and increases capital assets and (b) reduces unrestricted net position and increases net investment in capital assets.
- Principal payment on debt: (a) reduces current and other assets and reduces long-term debt and (b) reduces unrestricted net position and increases net investment in capital assets.
- Reduction of capital assets through depreciation: reduces capital assets and net investment in capital assets.

## Impacts and Analysis

## Current, Restricted and Other Assets

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Current, restricted and other assets decreased $94.4 million or 22.9 percent. The decrease was primarily attributable to the utilization of $46.1 million in bond proceeds to fund system capital projects. General fund cash (including cash and cash equivalents, short-term investments, and long-term investments) decreased $45.9 million. The net pension asset decreased $6 million due to the recognition of a net pension liability of $5 million during fiscal year 2016. Accounts receivable decreased $4.9 million. Gas storage decreased $1.4 million, reflecting lower commodity prices for natural gas for slightly higher storage volumes compared to the prior fiscal year.

These decreases were offset by an increase in inventories of $2.1 million and an increase of $4.6 million in operating contingency reserves. KUB under recovered its wholesale gas costs by $2.2 million in fiscal year 2016 compared to a $1.1 million over recovery in fiscal year 2015. The under recovery of costs will be collected from customers next fiscal year through adjustments to rates via the Purchased Gas Adjustment. Another offset to the decrease was the under recovery of $1.4 million in purchased power costs from electric system customers through its Purchased Power Adjustment mechanism in fiscal year 2016, as compared to a $0.5 million over recovery in fiscal year 2015. This under recovery of costs will be collected from customers next fiscal year through adjustments to rates via the Purchased Power Adjustment.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Current, restricted and other assets increased $65.4 million or 18.8 percent. The increase was primarily attributable to a $45 million increase in unused bond proceeds. General fund cash (including cash and cash equivalents, short-term investments, and long-term investments) increased $11.8 million. Operating contingency reserves increased $7.8 million. Due to the adoption of a new accounting standard, GASB 68 (See Notes to the Financial Statements), the net pension asset increased $6 million. These increases were partially offset by a $3.5 million decline in other assets, $1.1 million decrease in prepaid expenses, a $0.8 million decrease in gas in storage, and a decrease in inventories of $0.7 million.

## Capital Assets

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Capital assets (net) increased $92 million or 5.6 percent. Major capital expenditures (reflected in both plant additions and work in progress) in fiscal year 2016 included $32.6 million related to wastewater Century II projects, $25.1 million for various electric distribution system improvements, $15.1 million for installation of new gas main and service extensions, $13.5 million for main replacement for the water system, $8.4 million for upgrades to various information systems, $8.4 million for utility asset replacements and relocations to accommodate Tennessee Department of Transportation (TDOT) highway improvement projects and $7.5 million for water plant and system improvements.

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### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Capital assets (net) increased $102.3 million or 6.6 percent. Major plant expenditures (reflected in both plant additions and work in progress) during fiscal year 2015 included $28.7 million for various electric distribution system improvements, $25.3 million for Century II projects for the wastewater collection system, $12.5 million for water main replacement, $8.4 million for information system upgrades, $7.8 million for water plant and system improvements, $6 million for gas main replacement and $6 million for pole replacements for the electric system.

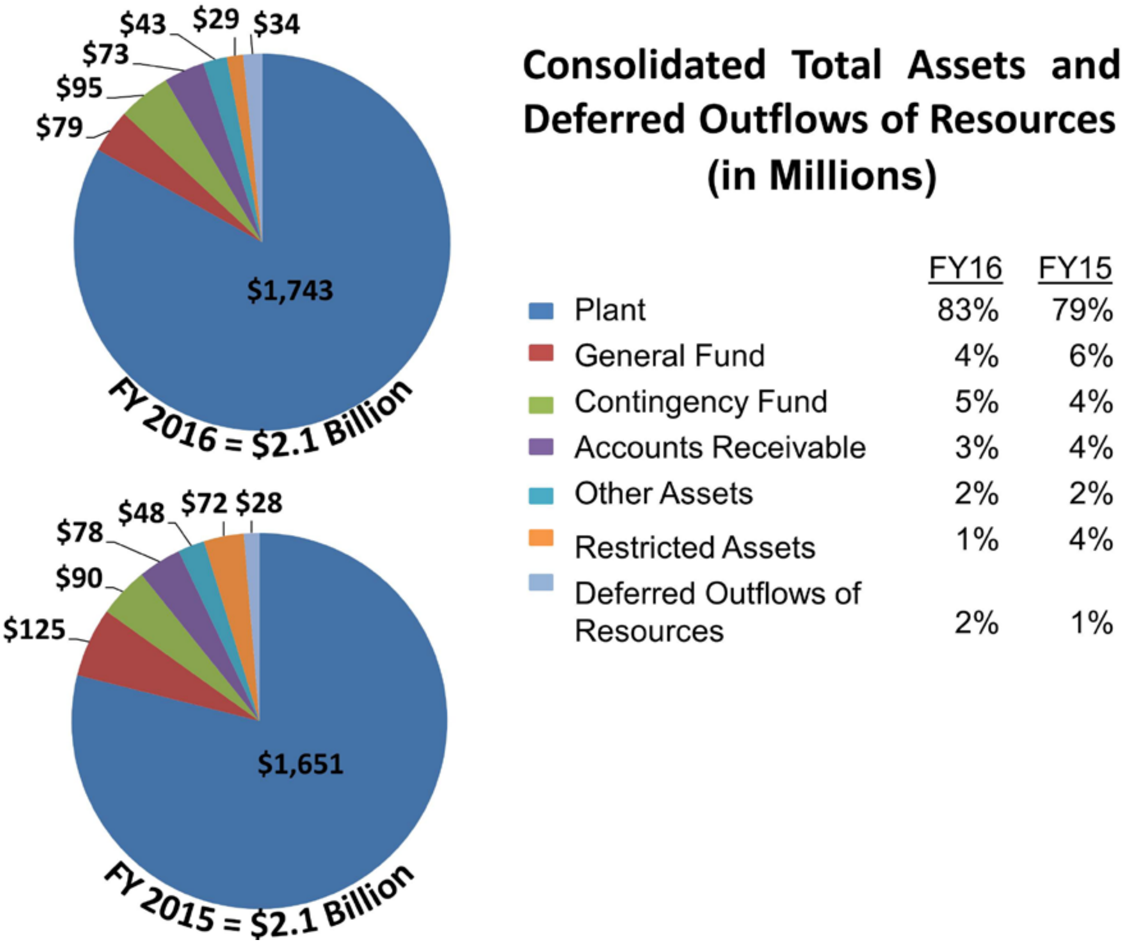
## Deferred Outflows of Resources

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Deferred outflows of resources increased $5.8 million compared to the prior year, reflecting an increase in pension outflow of $7.2 million and a $1.4 million decrease in unamortized bonds refunding costs when compared to the prior fiscal year.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Deferred outflows of resources increased $16.1 million compared to the prior year, reflecting amortization of deferred losses on bonds refunded during the fiscal year.



**Consolidated Total Assets and Deferred Outflows of Resources (in Millions)**

| | FY16 | FY15 |
|---|---|---|
| Plant | 83% | 79% |
| General Fund | 4% | 6% |
| Contingency Fund | 5% | 4% |
| Accounts Receivable | 3% | 4% |
| Other Assets | 2% | 2% |
| Restricted Assets | 1% | 4% |
| Deferred Outflows of Resources | 2% | 1% |

## Current and Other Liabilities

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Current and other liabilities increased $7 million or 4.6 percent. This was primarily due to an actuarially determined net pension obligation of $5 million recognized during fiscal year 2016. The current portion of revenue bonds increased $1.2 million and accrued interest on revenue bonds increased $1.5 million. Accrued expenses were $1.9 million higher than the prior fiscal year.

The increases were offset by the reductions to the over recovered purchased power cost and over recovered purchased gas cost liabilities of $0.5 million and $1.1 million, respectively. The over recoveries of cost were flowed back to KUB's electric and gas customers during fiscal year 2016 through adjustments to rates via the Purchased Power Adjustment and Purchased Gas Adjustment.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Current and other liabilities decreased $9 million or 5.6 percent. KUB over recovered $1.1 million in wholesale gas costs from its customers in fiscal year 2015, as compared to a $1.3 million over recovery in fiscal year 2014. Over recovery of purchased power expenses decreased $3.9 million in fiscal year 2015. The over recovery of purchased power and gas costs will be refunded to KUB's electric and gas customers through future adjustments to electric and gas rates via the Purchased Power Adjustment and Purchased Gas Adjustment, respectively. Accrued expenses decreased $7.5 million and accounts payable decreased $2.5 million. This decrease was partially offset by an increase in the current portion of debt related to bonds of $4.1 million.

## Long-term Debt

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Long-term debt decreased $32.7 million or 3.3 percent. The decrease was primarily due to $31.1 million of long-term bond debt that shifted to current liabilities as payable within the next year. During the fiscal year, $29.8 million of bond debt was repaid.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Long-term debt increased $151.2 million or 17.7 percent. During the fiscal year, $26.2 million of bond debt was repaid. During the fiscal year, KUB issued $163 million in revenue bonds to fund capital improvements for the electric, water and wastewater systems. The increase was partially offset by the scheduled repayment of bond debt.

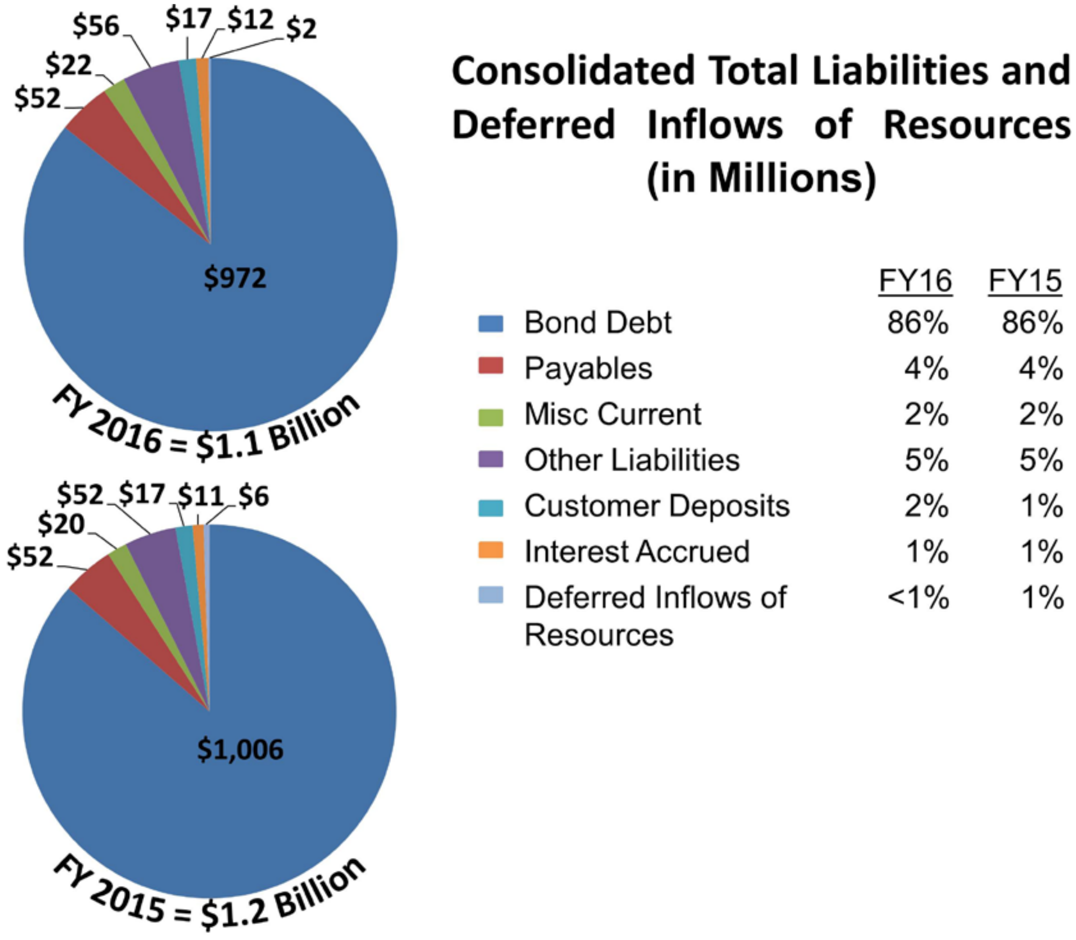
## Deferred Inflows of Resources

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Deferred inflows decreased $4.9 million compared to the prior fiscal year due to differences in pension inflows.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Deferred inflows increased $6.4 million compared to the prior fiscal year due to the addition of pension inflow.



| | FY16 | FY15 |
|---|---|---|
| Bond Debt | 86% | 86% |
| Payables | 4% | 4% |
| Misc Current | 2% | 2% |
| Other Liabilities | 5% | 5% |
| Customer Deposits | 2% | 1% |
| Interest Accrued | 1% | 1% |
| Deferred Inflows of Resources | <1% | 1% |

## Net Position

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Net position increased by $34 million in fiscal year 2016. Net investment in capital assets increased $121.5 million or 18.7 percent, the result of net capital assets increasing $92 million and a $32.7 million decrease in long term debt. Restricted net position increased $1.3 million compared to the prior year. Unrestricted net position decreased $88.9 million or 33.8 percent compared to the previous fiscal year, reflecting a decrease in unused bond proceeds and general fund cash.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Net position increased by $35.2 million in fiscal year 2015. Net investment in capital assets decreased $37.9 million or 5.5 percent, the net result of net capital assets increasing $102.3 million offset by the $137.4 million increase in long term debt from new bond issuances. Restricted net position increased $1.7 million compared to the prior year. Unrestricted net position increased $71.4 million or 37.2 percent compared to the previous fiscal year, reflecting increased unused bond proceeds and general fund cash.

## Statement of Revenues, Expenses and Changes in Net Position

The following table reflects the condensed consolidated Statement of Revenues, Expenses and Changes in Net Position for KUB compared to the prior year and the year preceding the prior year.

### Statements of Revenues, Expenses and Changes in Net Position
### For the Years Ended June 30

| *(in thousands of dollars)* | 2016 | 2015 | 2014 |
|---|---|---|---|
| Operating revenues | $ 733,362 | $ 763,704 | $ 751,710 |
| Less: Purchased energy expense | 439,301 | 479,166 | 484,074 |
| Margin from sales | 294,061 | 284,538 | 267,636 |
| Operating expenses | | | |
| Treatment | 16,618 | 15,319 | 14,038 |
| Distribution and collection | 59,536 | 62,319 | 60,100 |
| Customer service | 13,893 | 13,725 | 12,607 |
| Administrative and general | 33,239 | 30,741 | 31,747 |
| Depreciation | 68,370 | 61,708 | 55,885 |
| Taxes and tax equivalents | 31,440 | 29,649 | 27,097 |
| Total operating expenses | 223,096 | 213,461 | 201,474 |
| Operating income | 70,965 | 71,077 | 66,162 |
| Interest income | 1,388 | 917 | 852 |
| Interest expense | (39,143) | (37,968) | (37,033) |
| Other income/(expense) | (408) | 1,340 | (948) |
| Change in net position before capital contributions | 32,802 | 35,366 | 29,033 |
| Capital contributions | 1,170 | 606 | 736 |
| Change in net position | $ 33,972 | $ 35,972 | $ 29,769 |

## Normal Impacts on Statement of Revenues, Expenses and Changes in Net Position

The following is a description of activities which will normally impact the comparability of the Statement of Revenues, Expenses and Changes in Net Position presentation.

- Operating revenue is largely determined by volume of sales for the fiscal year. Any change (increase/decrease) in retail rates would also be a cause of change in operating revenue.

- Purchased energy expense is determined by volume of power purchases from TVA and volume of natural gas purchases for the fiscal year. Also, any change (increase/decrease) in wholesale power and/or gas rates would result in a change in purchased energy expense.

- Operating expenses (distribution, customer service, administrative and general) are normally impacted by changes in areas including, but not limited to, labor cost (staffing, wage rates), active employee and retiree medical expenses, and system maintenance.

- Depreciation expense is impacted by plant additions and retirements during the fiscal year.

- Taxes and equivalents are impacted by plant additions/retirements, changes in property tax rates, and gross margin levels.

- Interest income is impacted by level of interest rates and investments.

- Interest expense on debt is impacted by level of outstanding debt and the interest rate(s) on the outstanding debt.

- Other income/(expenses) is impacted by miscellaneous non-operating revenues and expenses.

- Capital contributions are impacted by a donation of facilities/infrastructure to KUB by developers and governmental agencies. The contributions are recognized as revenue and recorded as plant in service based on the fair market value of the asset(s).

## Impacts and Analysis

## Change in Net Position

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

KUB's consolidated net position increased $34 million. This increase was $2 million less than the prior year's change in net position. A restatement to the fiscal year 2014's net position based on a change in method of accounting for pension expense reduced the total net position by $0.8 million during fiscal year 2015.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

KUB's consolidated net position increased $36 million. This increase was $6.2 million greater than the prior year's change in net position. A restatement to the prior fiscal year's net position based on a change in method of accounting for pension expense reduced the total net position by $0.8 million during fiscal year 2015. This change resulted in a net increase of $35.2 million or 3.9 percent in KUB's consolidated net position.

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## Margin from Sales

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Operating revenue was $30.3 million or 4 percent lower than the previous fiscal year. Sales in both the Electric and Gas Divisions were impacted by the second mildest winter in the last forty years. Electric Division operating revenue decreased $12.2 million due to the net effect of additional revenue from KUB's one percent electric rate increase, a 3.1 percent decline in total power sales, the flow through of TVA rate adjustments and the flow through of prior year over recovered purchased power costs to electric customers. Gas Division revenue decreased $25.7 million for the fiscal year, the net result of 10.2 percent lower billed sales due to the warmer winter, lower purchased gas commodity prices flowed through to customer rates and additional revenue generated from rate increases. Water Division revenue increased $3.1 million, the result of additional revenue from the water rate increases and a 0.8 percent increase in water sales volumes. Wastewater Division revenue was $4.4 million higher than the previous year due to additional revenue from wastewater rate increases, as well as a 1.1 percent increase in wastewater billed volumes.

Wholesale energy expense decreased $39.9 million or 8.3 percent. Purchased power expense decreased $17.4 million compared to last year, due to lower customer demand. Purchased gas expense was $22.5 million lower due to less customer demand and reduced commodity prices for natural gas during the fiscal year.

Margin from sales (operating revenue less purchased energy expense) increased $9.5 million compared to the previous year. The increase reflects additional revenue from the electric, natural gas, water, and wastewater rate increases offset by lower electric and natural gas sales volumes.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Operating revenue was $12 million or 1.6 percent higher than the previous fiscal year. Electric Division operating revenue increased $5.9 million, the net result of additional revenue from KUB's electric rate increases, the flow through of TVA rate adjustments and the flow through of prior year over recovered purchased power costs. Gas Division revenue decreased $3 million for the fiscal year, the net result of additional revenue from rate increases effective October 2013 and October 2014 and the flow through of lower wholesale gas commodity costs. Water Division revenue increased $4.8 million, the result of additional revenue from water rate increases and a 1.6 percent increase in water sales volumes. Wastewater Division revenue was $4.3 million higher than the previous year due to additional revenue from the wastewater rate increase effective October 2014 and a 0.9 percent increase in wastewater billed sales volumes.

Wholesale energy expense decreased $4.9 million or 1 percent. Purchased power expense increased $0.7 million compared to last year, the net effect of a 1.5 percent increase to wholesale rate from TVA, coupled with decreased fuel costs. Purchased gas expense was $5.6 million lower, due to lower commodity costs.

Margin from sales (operating revenue less purchased energy expense) increased $16.9 million compared to the previous year. The increase reflects a higher level of gas sales volumes and additional revenue from the electric, gas, water, and wastewater rate increases.

## Operating Expenses

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

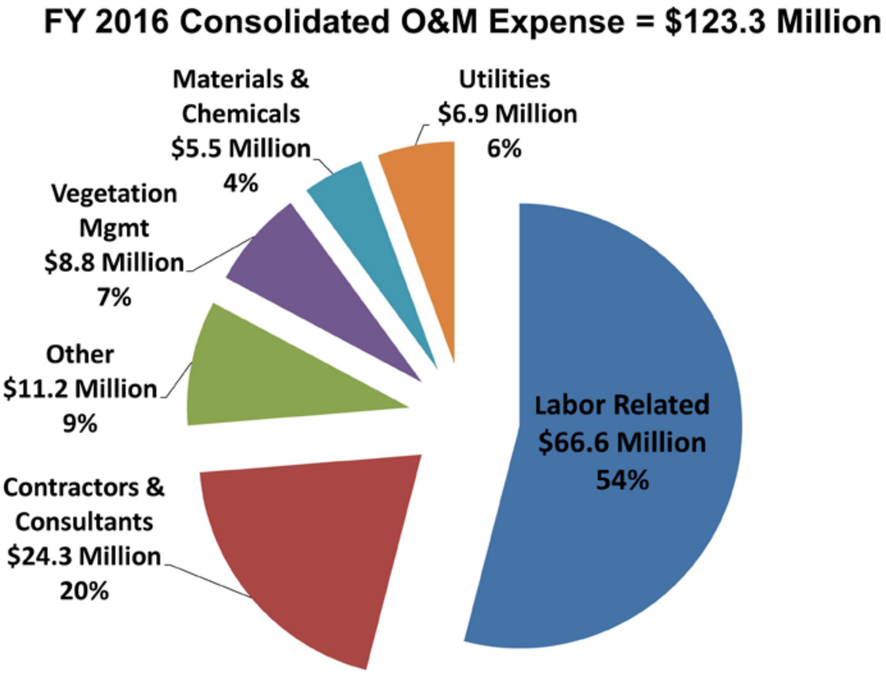
Operating expenses (excluding wholesale purchased energy expense) increased $9.6 million or 4.5 percent compared to fiscal year 2015. Operating expenses include operations and maintenance (O&M) expense, depreciation, and taxes/tax equivalents. O&M expenses can be further classified as treatment, distribution and collection, customer service and administrative and general.

- Treatment expenses were $1.3 million or 8.5 percent higher than the prior year, reflecting higher labor related expenses for the water and wastewater system and increased outside contractor expenses for the wastewater system.

- Distribution and collection expenses decreased $2.8 million or 4.5 percent, primarily due to reduced use of outside contractors and consultants offset by increased labor related expenses.

- Customer service expenses rose $0.2 million or 1.2 percent.

- Administrative and general expenses increased $2.5 million or 8.1 percent, primarily due to an increase in pension expense.



- Depreciation expense increased $6.7 million or 10.8 percent. KUB added $94.5 million in assets during fiscal year 2015. A full year of depreciation expense was recorded on these capital investments and a partial year of depreciation expense was incurred on $213.7 million in assets placed in service during fiscal year 2016.

- Taxes and tax equivalents increased $1.8 million or 6 percent due to increased plant in service levels. Tax equivalent payments to taxing jurisdictions in which KUB's utility systems are located are based on a combination of net plant values and margin from sales.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

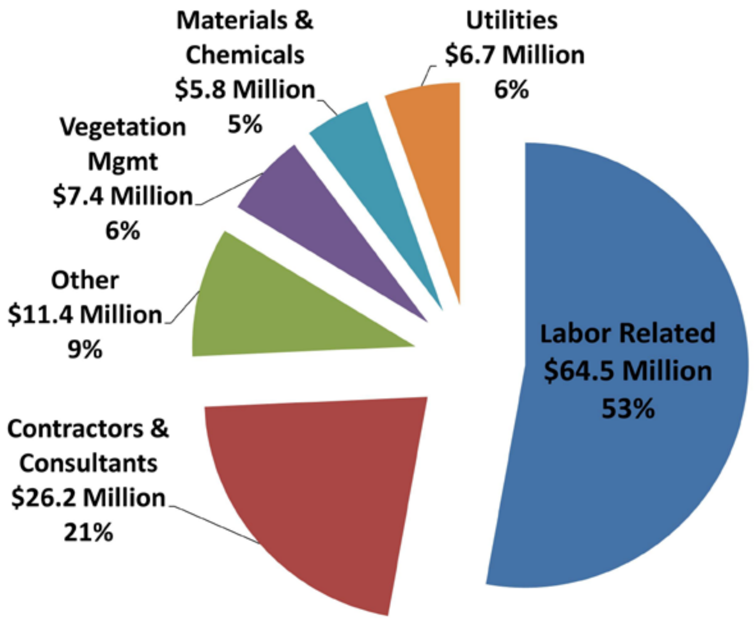
Operating expenses (excluding wholesale purchased energy expense) increased $12 million or 5.9 percent compared to fiscal year 2014. Operating expenses include operations and maintenance (O&M) expense, depreciation, and taxes/tax equivalents. O&M expenses can be further classified as treatment, distribution and collection, customer service and administrative and general.

- Treatment expenses were $1.3 million or 9.1 percent higher than the prior year, reflecting an increase in consultant and contractor expenses for the water and wastewater systems.

- Distribution and collection expenses increased $2.2 million or 3.7 percent, primarily the result of restoration expenses related to the February 2015 ice storm, higher labor related expenses, vegetation management expenses, and outside consultant expenses.

- Customer service expenses rose $1.1 million or 8.9 percent, due to an increase in computer software expenses and consultant expense during the fiscal year.

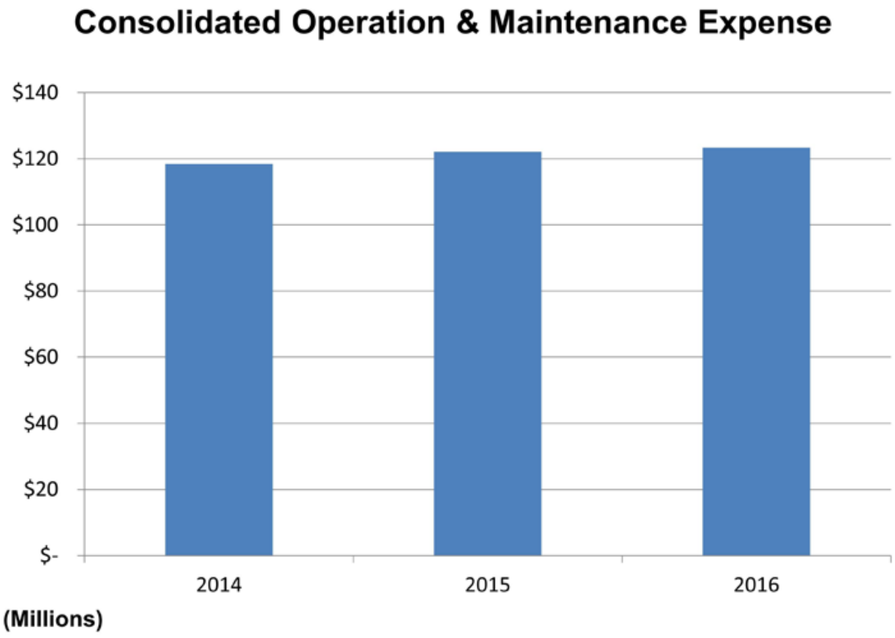
- Administrative and general expenses decreased $1 million or 3.2 percent, primarily due to a decrease in pension expense.



**FY 2015 Consolidated O&M Expense = $122.1 Million**

- Depreciation expense increased $5.8 million or 10.4 percent. KUB added $174 million in assets during fiscal year 2014. A full year of depreciation expense was recorded on these capital investments during fiscal year 2014 and a partial year of depreciation expense was incurred on $94.5 million in assets placed in service during fiscal year 2015.

- Taxes and tax equivalents increased $2.6 million or 9.4 percent. Tax equivalent payments to taxing jurisdictions in which KUB's utility systems are located are based on a combination of net plant values and margin from sales. The City of Knoxville's property tax rate increased this year and higher plant in service and margin levels both contributed to the growth in tax equivalent payments.



## Other Income and Expense

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

Contributions in aid of construction increased $7.4 million compared to the prior fiscal year. This was primarily due to a $4 million contribution from the University of Tennessee, representing the remaining portion of the University's contribution for the natural gas South Loop project.

Interest income increased $0.5 million compared to the prior fiscal year.

Interest expense increased $1.2 million or 3.1 percent, reflecting interest expense from bonds issued in fiscal year 2015.

Other income (net) decreased $1.7 million. Reimbursements of $1.6 million were recognized as non-operating income in fiscal year 2015 for the February 2015 ice storm. KUB recorded a $0.8 million loss on disposition of assets in fiscal year 2016 compared to a $0.1 million loss in fiscal year 2015.

Capital contributions by developers were $0.6 million higher than last fiscal year.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

Contributions in aid of construction decreased $4.6 million compared to the prior fiscal year. This was due to a $3.9 million contribution from the University of Tennessee during the prior fiscal year, representing a portion of the University's contribution for the South Loop project, a new gas transmission main. The

South Loop project will provide additional capacity to meet the University's increased natural gas demand in the future.

Interest income was consistent with the prior fiscal year.

Interest expense increased $0.9 million or 2.5 percent, reflecting interest expense on $78 million in bonds issued in August 2014, and $85 million in bonds issued in April 2015.

Other income (net) increased $2.3 million, primarily due to $1.6 million in non-operating income from the accrual of the expected reimbursement of electric system restoration expenses related to the February 2015 ice storm. The loss on disposal of property decreased $0.5 million compared to the prior fiscal year.

Capital contributions by developers were $0.1 million lower than last fiscal year.

## Capital Assets

### Capital Assets
### As of June 30
### (Net of Depreciation)

*(in thousands of dollars)*

| | 2016 | 2015 | 2014 |
|---|---|---|---|
| **Production Plant (Intakes)** | $ 58 | $ 62 | $ 76 |
| **Pumping and Treatment Plant** | 194,450 | 174,660 | 177,256 |
| | | | |
| **Distribution and Collection Plant** | | | |
| Mains and metering | $ 755,850 | $ 685,480 | $ 670,953 |
| Services and meters | 92,121 | 89,086 | 85,654 |
| Electric station equipment | 56,487 | 34,643 | 32,797 |
| Poles, towers and fixtures | 104,867 | 93,780 | 84,332 |
| Overhead conductors | 84,937 | 79,199 | 73,663 |
| Line transformers | 59,587 | 56,774 | 55,600 |
| Other accounts | 195,751 | 192,417 | 191,564 |
| **Total Distribution & Collection Plant** | **$** 1,349,600 | **$** 1,231,379 | **$** 1,194,563 |
| **General Plant** | 55,791 | 51,234 | 52,149 |
| **Total Plant Assets** | **$** 1,599,899 | **$** 1,457,335 | **$** 1,424,044 |
| Work In Progress | 143,206 | 193,812 | 124,830 |
| **Total Net Plant** | $ 1,743,105 | $ 1,651,147 | $ 1,548,874 |

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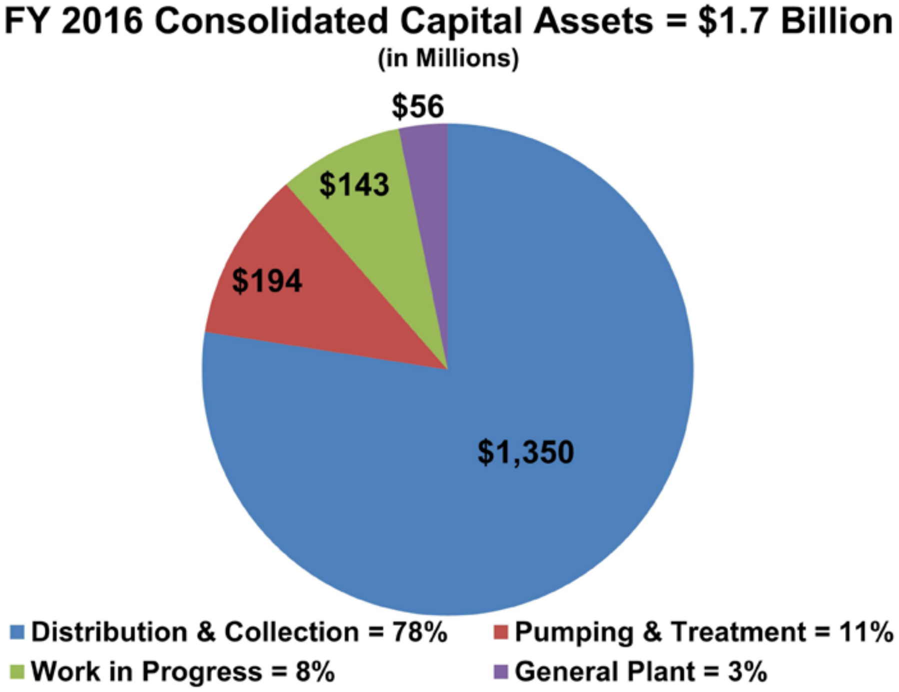
### *Fiscal Year 2016 Compared to Fiscal Year 2015*

As of June 30, 2016, KUB had $1.7 billion invested in capital assets, as reflected in the schedule of Capital Assets, which represents a net increase (including additions, retirements, and depreciation) of $92 million or 5.6 percent over the end of the last fiscal year.

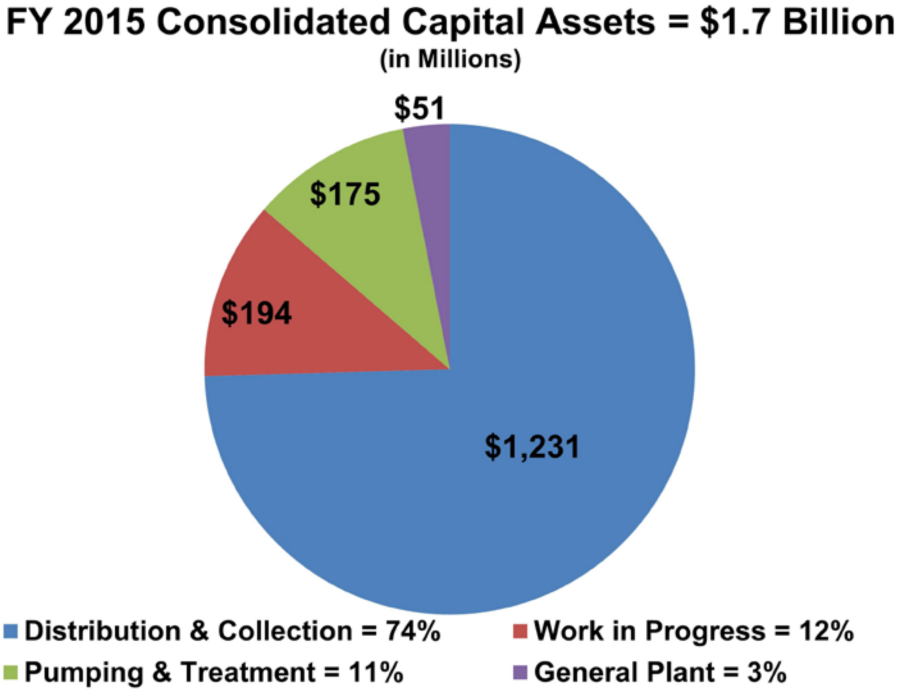


Major capital asset additions during the year were as follows:

- $32.6 million related to wastewater Century II projects
    - $15.8 million for sewer mini-basin rehabilitation and replacement
    - $7.7 million for sewer trunk line rehabilitation and replacement
    - $5.3 million for pump station design and construction
    - $3.8 million for wastewater treatment plant upgrades
- $25.1 million for various electric distribution system improvements
- $15.1 million for installation of new gas main and service extensions
- $13.5 million for main replacement for the water system
- $8.4 million for upgrades to various information systems
- $8.4 million for replacement and relocation of utility assets to accommodate TDOT highway improvement projects
- $7.7 million for pole replacements for the electric system
- $7.5 million for water plant and system improvements

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

As of June 30, 2015, KUB had $1.7 billion invested in capital assets, as reflected in the schedule of Capital Assets, which represents a net increase (including additions, retirements, and depreciation) of $102.3 million or 6.6 percent over the end of the last fiscal year.



Major capital asset additions during the year were as follows:

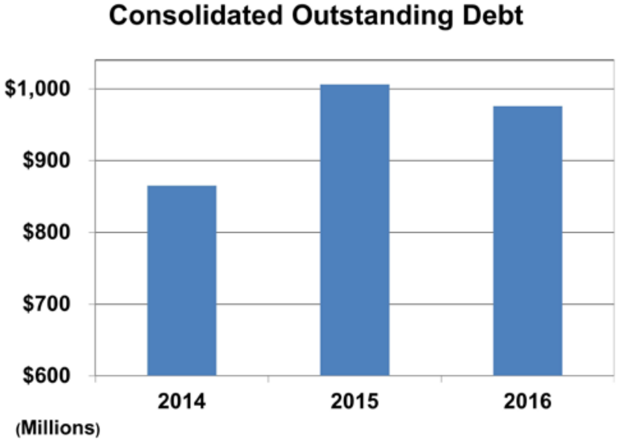
- $28.7 million for various electric distribution system improvements
- $25.3 million related to wastewater Century II projects
  - $20.4 million for sewer mini-basin rehabilitation and replacement
  - $2.6 million for pump station design and construction
  - $1.3 million for wastewater treatment plant upgrades
  - $1 million for sewer trunk line rehabilitation and replacement
- $12.5 million for main replacement for the water system
- $8.4 million for information system upgrades
- $7.8 million for water plant and system improvements
- $6 million for gas main replacement
- $6 million for pole replacements for the electric system

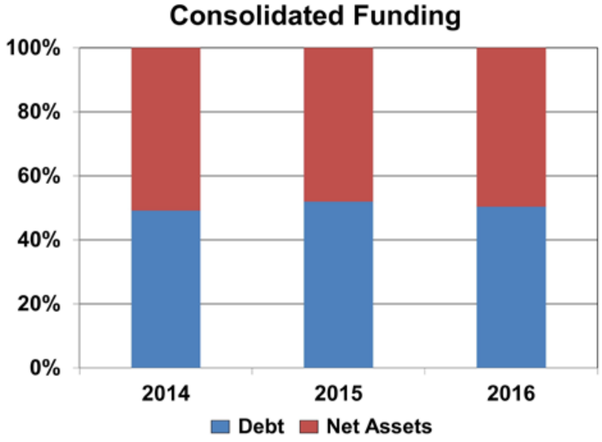
## Debt Administration

KUB's outstanding debt was $976.4 million at June 30, 2016. No new debt was issued in fiscal year 2016. Debt as a percentage of capital structure was 50.4 percent in 2016, 52 percent in 2015 and 49.2 percent at the end of fiscal year 2014.

### Outstanding Debt
### As of June 30

| *(in thousands of dollars)* | 2016 | 2015 | 2014 |
|---|---|---|---|
| Revenue bonds | $ 976,430 | $ 1,006,260 | $ 864,740 |
| Total outstanding debt | $ 976,430 | $ 1,006,260 | $ 864,740 |





KUB will pay $365.1 million in principal payments over the next ten years, representing 37.4 percent of outstanding bonds.

### *Fiscal Year 2016 Compared to Fiscal Year 2015*

As of June 30, 2016, KUB had $976.4 million in outstanding debt (including the current portion of revenue bonds) compared to $1 billion last year, a decrease of $29.8 million. KUB's weighted average cost of debt as of June 30, 2016 was 3.95 percent.

KUB's outstanding debt is rated by Standard & Poor's and Moody's Investors Service. As of June 30, 2016, Standard & Poor's rated the revenue bonds of the Water Division AAA, the Electric and Wastewater Divisions AA+ and the revenue bonds of the Gas Division AA. Moody's Investors Service rated the bonds of all four Divisions Aa2.

### *Fiscal Year 2015 Compared to Fiscal Year 2014*

As of June 30, 2015, KUB had $1 billion in outstanding debt (including the current portion of revenue bonds) compared to $864.7 million last year, an increase of $141.5 million. KUB's weighted average cost of debt as of June 30, 2015 was 3.95 percent.

During fiscal year 2015, $26.2 million in bonds were repaid.

In August 2014, KUB issued $78 million of new revenue bonds to fund capital system improvements, including $40 million for the electric system, $8 million for the water system and $30 million for the wastewater system.

In April 2015, KUB issued $85 million of new revenue bonds to fund capital system improvements, including $35 million for the electric system, $20 million for the water system and $30 million for the wastewater system.

In April 2015, KUB issued $193.2 million in revenue refunding bonds to refinance certain outstanding bonds, including $28.6 million for the electric system, $11.8 million for the gas system, $23 million for the water system and $129.8 million for the wastewater system. The refunding of certain bonds at lower interest rates will provide debt service savings of $19.2 million over the life of the bonds

KUB's outstanding debt is rated by Standard & Poor's and Moody's Investors Service. As of June 30, 2015, Standard & Poor's rated the revenue bonds of the Water Division AAA, the Electric and Wastewater Divisions AA+ and the revenue bonds of the Gas Division AA. Moody's Investors Service rated the bonds of all four Divisions Aa2. The Standard and Poor's water rating represented an upgrade for water system bonds and the highest credit rating available from Standard and Poor's. In the rating report on the water system bonds, Standard & Poor's stated "the upgrade is based on the water system's extremely strong financial risk profile, which we view as sustainable over time after reviewing management's long-term financial forecast."

## Impacts on Future Financial Position

KUB anticipates net customer growth of 2,550 customers during fiscal year 2017.

In June 2014, the KUB Board adopted three years of rate increases for all four Divisions to help fund the ongoing Century II infrastructure programs for each system. Two of those rate increases have gone into effect.

The remaining electric rate increase will be effective July 2016. The rate increase will provide $5.2 million in additional annual Electric Division revenue.

The remaining natural gas rate increase will be effective October 2016. The rate increase will result in $1.8 million in additional annual Gas Division revenue.

The remaining water rate increase will be effective July 2016. The rate increase will result in additional annual Water Division revenue of $2 million.

The remaining wastewater rate increase will be effective October 2016. The wastewater rate increase will provide additional annual revenue of $4.7 million.

In April 2016, KUB management presented the fiscal year 2017 budget to the KUB Board of Commissioners that accommodates the projected level of capital investment for the fiscal year. Over the course of the next ten years KUB plans to spend $108 million dollars on Grid Modernization. In July 2016, the four-year deployment of advanced meters began.

KUB sold $40 million in electric system revenue bonds in July 2016 for the purpose of funding electric system capital improvements. The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.75 percent.

KUB sold $12 million in natural gas system revenue bonds in July 2016 for the purpose of funding natural gas system capital improvements. The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.78 percent.

KUB sold $25 million in water system revenue bonds in July 2016 for the purpose of funding water system capital improvements. The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.72 percent.

KUB sold $20.9 million in water system revenue refunding bonds in July 2016 for the purpose of refinancing existing debt at lower interest rates. KUB will realize a total debt service savings of $2.5 million over the life of the bonds ($2.2 million on a net present value basis). The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.07 percent.

As part of the rating process for the $25 million in revenue bonds and $20.9 million in revenue refunding bonds, Moody's upgraded its rating on KUB's water system bonds to Aa1 from Aa2. Aa1 is the second to highest bond credit rating assigned by Moody's Investors Service. In its formal rating report, Moody's stated "the upgrade to Aa1 reflects the well-managed financial operations of the water system that continues to provide for solid debt service coverage and liquidity, a mature service area, and a manageable debt profile." The AAA bond rating from Standard and Poor's was reaffirmed. In its formal rating report on the water bonds Standard and Poor's noted "based on our financial management assessment we view KUB to be "1" on a scale of 1-6, with "1" being the strongest."

KUB sold $20 million in wastewater system revenue bonds in July 2016 for the purpose of funding wastewater system capital improvements. The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.72 percent.

KUB long-term debt includes $130.4 million of Build America Bond (BABs). The BABs were sold on a taxable basis with the United States Treasury providing a rebate to KUB for a percentage of the interest cost. The interest rebates were subject to federal sequestration during the fiscal year and were reduced by 6.8 percent. Any future actions by Congress may also affect the anticipated rebates for future fiscal years.

GASB Statement No. 82, *Pension Issues – An amendment of GASB Statements No. 67, No. 68 and No. 73* is effective for fiscal years beginning after June 15, 2016. GASB Statement No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans,* and GASB No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions,* are effective for periods beginning after June 15, 2017. KUB has not elected early implementation of these standards and has not completed the process of evaluating the impact of these statements on its financial statements.

No other facts, decisions, or conditions are currently known which would have a significant impact on KUB's financial position or results of operations during fiscal year 2016.

## Financial Contact

KUB's financial statements are designed to present users (citizens, customers, investors, and creditors) with a general overview of KUB's financial position and results of operations for the fiscal years ending June 30, 2016 and 2015. If you have questions about the statements or need additional financial information, contact KUB's Chief Financial Officer at 445 South Gay Street, Knoxville, Tennessee 37902.

# Knoxville Utilities Board
## Consolidated Statements of Net Position
## June 30, 2016 and 2015

| | 2016 | 2015 |
|---|---|---|
| **Assets and Deferred Outflows of Resources** | | |
| Current assets: | | |
| Cash and cash equivalents | $ 78,946,397 | $ 124,892,534 |
| Short-term contingency fund investments | 25,699,396 | 6,296,090 |
| Other current assets | 859,383 | 1,638,388 |
| Accrued interest receivable | 43,237 | 43,229 |
| Accounts receivable, less allowance of uncollectible accounts of $805,684 in 2016 and $720,939 in 2015 | 72,945,320 | 77,844,543 |
| Inventories | 10,524,829 | 8,421,065 |
| Prepaid expenses | 886,725 | 809,844 |
| Gas storage | 8,010,091 | 9,447,403 |
| Total current assets | 197,915,378 | 229,393,096 |
| | | |
| Restricted assets: | | |
| Bond funds | 28,935,445 | 26,154,107 |
| Other funds | 21,418 | 43,897 |
| Unused bond proceeds | - | 46,053,950 |
| Total restricted assets | 28,956,863 | 72,251,954 |
| | | |
| Plant in service | 2,397,423,083 | 2,210,535,681 |
| Less accumulated depreciation | (797,524,421) | (753,200,620) |
| | 1,599,898,662 | 1,457,335,061 |
| Retirement in progress | 1,327,498 | 940,386 |
| Construction in progress | 141,878,991 | 192,871,763 |
| Net plant in service | 1,743,105,151 | 1,651,147,210 |
| | | |
| Other assets: | | |
| Net pension asset | - | 6,021,629 |
| Long-term contingency fund investments | 69,184,035 | 84,036,694 |
| TVA conservation program receivable | 8,153,192 | 10,109,135 |
| Under recovered purchased power cost | 1,379,643 | - |
| Under recovered purchased gas cost | 2,178,653 | - |
| Other | 10,882,837 | 11,248,778 |
| Total other assets | 91,778,360 | 111,416,236 |
| Total assets | 2,061,755,752 | 2,064,208,496 |
| | | |
| Deferred outflows of resources: | | |
| Pension outflow | 10,357,291 | 3,157,199 |
| Unamortized bond refunding costs | 23,877,411 | 25,230,799 |
| Total deferred outflows of resources | 34,234,702 | 28,387,998 |
| Total assets and deferred outflows of resources | $ 2,095,990,454 | $ 2,092,596,494 |

The accompanying notes are an integral part of these consolidated financial statements.

# Knoxville Utilities Board
## Consolidated Statements of Net Position
## June 30, 2016 and 2015

| | 2016 | 2015 |
|---|---|---|
| **Liabilities, Deferred Inflows, and Net Position** | | |
| Current liabilities: | | |
| Current portion of revenue bonds | $ 31,050,000 | $ 29,830,000 |
| Sales tax collections payable | 1,238,516 | 1,251,145 |
| Accounts payable | 50,663,005 | 50,651,280 |
| Accrued expenses | 21,610,050 | 19,729,155 |
| Customer deposits plus accrued interest | 17,135,891 | 16,465,292 |
| Accrued interest on revenue bonds | 12,755,853 | 11,306,248 |
| Total current liabilities | 134,453,315 | 129,233,120 |
| Other liabilities: | | |
| TVA conservation program | 8,412,853 | 10,336,682 |
| Accrued compensated absences | 9,061,226 | 8,616,844 |
| Customer advances for construction | 2,247,599 | 2,305,058 |
| Net pension liability | 5,040,160 | - |
| Over recovered purchased power cost | - | 500,522 |
| Over recovered purchased gas cost | - | 1,063,761 |
| Other | 303,673 | 478,797 |
| Total other liabilities | 25,065,511 | 23,301,664 |
| Long-term debt: | | |
| Revenue bonds | 945,380,000 | 976,430,000 |
| Unamortized premiums/discounts | 26,985,541 | 28,631,810 |
| Total long-term debt | 972,365,541 | 1,005,061,810 |
| Total liabilities | 1,131,884,367 | 1,157,596,594 |
| Deferred inflows of resources: | | |
| Pension inflow | 1,512,267 | 6,378,310 |
| Total deferred inflows of resources | 1,512,267 | 6,378,310 |
| Total liabilities and deferred inflows of resources | 1,133,396,634 | 1,163,974,904 |
| Net position | | |
| Net investment in capital assets | 772,012,085 | 650,464,457 |
| Restricted for: | | |
| Debt service | 16,179,592 | 14,847,859 |
| Other | 21,418 | 43,896 |
| Unrestricted | 174,380,725 | 263,265,378 |
| Total net position | 962,593,820 | 928,621,590 |
| Total liabilities, deferred inflows, and net position | $ 2,095,990,454 | $ 2,092,596,494 |

The accompanying notes are an integral part of these consolidated financial statements.

# Knoxville Utilities Board

## Consolidated Statements of Revenues, Expenses and Changes in Net Position

## June 30, 2016 and 2015

| | 2016 | 2015 |
|---|---|---|
| Operating revenues | | |
| Electric | $ 515,031,267 | $ 527,233,806 |
| Gas | 88,193,346 | 113,850,059 |
| Water | 46,899,326 | 43,777,160 |
| Wastewater | 83,238,147 | 78,842,964 |
| Total operating revenues | 733,362,086 | 763,703,989 |
| Operating expenses | | |
| Purchased power | 398,205,855 | 415,610,969 |
| Purchased gas | 41,095,212 | 63,555,513 |
| Treatment | 16,617,907 | 15,318,610 |
| Distribution and collection | 59,535,776 | 62,318,632 |
| Customer service | 13,893,287 | 13,725,067 |
| Administrative and general | 33,239,284 | 30,741,405 |
| Provision for depreciation | 68,369,697 | 61,708,086 |
| Taxes and tax equivalents | 31,439,759 | 29,648,873 |
| Total operating expenses | 662,396,777 | 692,627,155 |
| Operating income | 70,965,309 | 71,076,834 |
| Non-operating revenues (expenses) | | |
| Contributions in aid of construction | 10,258,938 | 2,871,465 |
| Interest and dividend income | 1,388,168 | 916,983 |
| Interest expense | (39,142,974) | (37,967,821) |
| Amortization of debt costs | (297,772) | (225,173) |
| Write-down of plant for costs recovered through contributions | (10,258,938) | (2,871,465) |
| Other | (110,775) | 1,565,032 |
| Total non-operating revenues (expenses) | (38,163,353) | (35,710,979) |
| Change in net position before capital contributions | 32,801,956 | 35,365,855 |
| Capital contributions | 1,170,274 | 605,907 |
| Change in net position | 33,972,230 | 35,971,762 |
| Net position, beginning of year, as previously reported | 928,621,590 | 893,413,803 |
| Change in method of accounting for pension | - | (763,975) |
| Net position, beginning of year, as restated | 928,621,590 | 892,649,828 |
| Net position, end of year | $ 962,593,820 | $ 928,621,590 |

The accompanying notes are an integral part of these consolidated financial statements.

# Knoxville Utilities Board
## Consolidated Statements of Cash Flows
## June 30, 2016 and 2015

| | | 2016 | | 2015 |
|---|---|---|---|---|
| Cash flows from operating activities: | | | | |
| Cash receipts from customers | $ | 735,166,499 | $ | 761,548,382 |
| Cash receipts from other operations | | 14,425,337 | | 11,720,197 |
| Cash payments to suppliers of goods or services | | (524,357,750) | | (569,272,217) |
| Cash payments to employees for services | | (55,202,648) | | (50,466,843) |
| Payment in lieu of taxes | | (27,404,220) | | (25,910,417) |
| Cash receipts from collections of TVA conservation loan program participants | | 3,067,056 | | 3,046,131 |
| Cash payments for TVA Conservation loan program | | (3,034,941) | | (3,071,013) |
| Net cash provided by operating activities | | 142,659,333 | | 127,594,220 |
| Cash flows from capital and related financing activities: | | | | |
| Net proceeds from bond issuance | | - | | 165,499,847 |
| Principal paid on revenue bonds and notes payable | | (29,830,000) | | (26,240,000) |
| (Increase) decrease in unused bond proceeds | | 46,053,950 | | (44,998,540) |
| Interest paid on revenue bonds and notes payable | | (37,693,370) | | (37,130,082) |
| Acquisition and construction of plant | | (171,820,155) | | (168,110,486) |
| Changes in bond funds, restricted | | (2,781,338) | | (1,491,853) |
| Customer advances for construction | | 301,071 | | 697,695 |
| Proceeds received on disposal of plant | | 269,540 | | - |
| Cash received from developers and individuals for capital purposes | | 10,258,938 | | 2,871,465 |
| Net cash used in capital and related financing activities | | (185,241,364) | | (108,901,954) |
| Cash flows from investing activities: | | | | |
| Purchase of investment securities | | (10,460,222) | | (20,286,901) |
| Maturities of investment securities | | 6,292,200 | | 19,495,562 |
| Interest received | | 1,388,160 | | 903,509 |
| Other property and investments | | (584,244) | | 9,256 |
| Net cash provided by (used in) investing activities | | (3,364,106) | | 121,426 |
| Net increase (decrease) in cash and cash equivalents | | (45,946,137) | | 18,813,692 |
| Cash and cash equivalents, beginning of year | | 124,892,534 | | 106,078,842 |
| Cash and cash equivalents, end of year | $ | 78,946,397 | $ | 124,892,534 |
| **Reconciliation of operating income to net cash provided by operating activities** | | | | |
| Operating income | $ | 70,965,309 | $ | 71,076,834 |
| Adjustments to reconcile operating income to net cash provided by operating activities: | | | | |
| Depreciation expense | | 70,236,319 | | 63,406,737 |
| Changes in operating assets and liabilities: | | | | |
| Accounts receivable | | 4,980,351 | | 1,848,310 |
| Inventories | | (2,103,762) | | 669,347 |
| Prepaid expenses | | 1,360,432 | | 881,113 |
| TVA conservation program receivable | | 1,874,818 | | 523,680 |
| Other assets | | 576,770 | | (2,942,632) |
| Sales tax collections payable | | (12,629) | | 52,021 |
| Accounts payable and accrued expenses | | 1,332,656 | | (4,201,309) |
| TVA conservation program payable | | (1,923,829) | | (548,563) |
| Unrecovered purchased power cost | | (1,880,165) | | (3,912,247) |
| Underrecovered gas costs | | (3,242,414) | | (214,383) |
| Customer deposits plus accrued interest | | 670,600 | | 732,639 |
| Other liabilities | | (175,123) | | 222,673 |
| Net cash provided by operating activities | $ | 142,659,333 | $ | 127,594,220 |
| Noncash capital activities: | | | | |
| Acquisition of plant assets through developer contributions | $ | 1,170,274 | $ | 605,907 |

The accompanying notes are an integral part of these consolidated financial statements.

## 1. Description of Business:

Knoxville Utilities Board (KUB), comprised of the Electric Division, Gas Division, Water Division, and Wastewater Division (Divisions), is reported as a component unit enterprise fund in the financial statements of the City of Knoxville. KUB's responsibility is to oversee the purchase, production, distribution, and processing of electricity, natural gas, water, and wastewater services. A seven-member Board of Commissioners (Board) governs KUB. The Board has all powers to construct, acquire, expand, and operate the Divisions. It has full control and complete jurisdiction over the management and operation of the Divisions including setting rates. KUB's accounts are maintained in conformity with the Uniform System of Accounts of the Federal Energy Regulatory Commission (FERC), the Uniform System of Accounts of the National Association of Regulatory Utility Commissioners (NARUC), and the Governmental Accounting Standards Board (GASB), as applicable.

## 2. Significant Accounting Policies:

### Basis of Accounting

In conformity with Generally Accepted Accounting Principles (GAAP), KUB follows the provisions of GASB Statement No. 34 (Statement No. 34), *Financial Statements – and Management's Discussion and Analysis – for State and Local Governments* as amended by GASB Statement No. 63 (Statement No. 63), *Financial Reporting of Deferred Outflows of Resources, Deferred Inflows of Resources and Net Position.* Statement No. 34 established standards for external financial reporting for all state and local governmental entities. Under Statement No. 63, financial statements include deferred outflows of resources and deferred inflows of resources, in addition to assets and liabilities, and will report *net position* instead of net assets. In addition, KUB follows GASB Statement No. 62 (Statement No. 62), *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements* as it relates to certain items for regulatory accounting. Regulatory accounting allows a regulated utility to defer a cost (a regulatory asset) or recognize an obligation (a regulatory liability) if it is probable that through the rate making process, there will be a corresponding increase or decrease in future revenues. Accordingly, KUB has recognized certain regulatory assets and regulatory liabilities in the accompanying Statements of Net Position.

The consolidated financial statements are prepared on the accrual basis of accounting, whereby revenues are recognized when earned and expenses are recognized when incurred. The accounting and financial reporting treatment applied is determined by measurement focus. The transactions are accounted for on a flow of economic resources measurement focus. With this measurement focus, all assets and all liabilities associated with the operations are included on the Statement of Net Position. Net position (i.e., total assets and deferred outflows of resources net of total liabilities and deferred inflows of resources) is segregated into net investment in capital assets, restricted for capital activity and debt service, and unrestricted components.

### Recently Adopted New Accounting Pronouncements

In February 2015, the Governmental Accounting Standards Board (GASB) issued Statement No. 72 (Statement No. 72), *Fair Value Measurement and Application.* Statement No. 72 is intended to provide guidance for determining a fair value measurement for financial reporting purposes and for applying fair value to certain investments and disclosures related to all fair value measurements.

In June 2015, the GASB issued GASB Statement No. 73 (Statement No. 73), *Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provision of GASB Statements 67 and 68.* The requirements of this Statement will improve financial reporting by establishing a single framework for the presentation of information about pensions and enhance comparability.

In June 2015, the GASB issued GASB Statement No. 76 (Statement No. 76), *The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments*. The objective of this Statement is to simplify the hierarchy of generally accepted accounting principles (GAAP) used to prepare financial statements of state and local governmental entities. This Statement supersedes Statement No. 55, *The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments,* and amends Statement No. 62, *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements*, paragraphs 64, 74, and 82.

In December 2015, the GASB issued GASB Statement No. 79 (Statement No. 79), *Certain External Investment Pools and Pool Participants.* This statement establishes criteria for an external investment pool to qualify for making the election to measure all of its investments at amortized cost for financial reporting purposes.

Statements No. 72, 73, 76, and 79 are effective for fiscal years beginning after June 15, 2015.

### Principles of Consolidation

The consolidated financial statements include the accounts of the Electric, Gas, Water and Wastewater Divisions. All significant intercompany balances and transactions have been eliminated in consolidation.

KUB issues separate financial reports, which include financial statements and required supplementary information, for the Electric, Gas, Water, and Wastewater Divisions. These reports may be obtained by writing Knoxville Utilities Board, P.O. Box 59017, Knoxville, TN 37950-9017.

### Plant

Plant and other property are stated on the basis of original cost. The costs of current repairs and minor replacements are charged to operating expense. The costs of renewals and improvements are capitalized. The original cost of utility plant assets retired or otherwise disposed of and the cost of removal less salvage value is charged to accumulated depreciation. When other property is retired, the related asset and accumulated depreciation are removed from the accounts, and the gain or loss is included in the results of operations.

The provision for depreciation of plants in service is based on the estimated useful lives of the assets, which range from three to sixty-seven years, and is computed using the straight-line method. Pursuant to FERC/NARUC, the caption "Provision for depreciation" in the consolidated Statements of Revenues, Expenses and Changes in Net Position does not include depreciation for transportation equipment of $1,866,622 in fiscal year 2016 and $1,698,650 in fiscal year 2015. Under regulatory accounting, interest costs are expensed as incurred with construction of plant assets.

### Operating Revenue

Operating revenue consists primarily of charges for services provided by the principal operations of KUB. Operating revenue is recorded when the service is rendered, on a cycle basis, and includes an estimate of unbilled revenue. Revenues are reported net of bad debt expense of $1,820,030 in fiscal year 2016 and $2,504,785 in fiscal year 2015.

### Non-operating Revenue

Non-operating revenue consists of revenues that are related to financing and investing types of activities and result from non-exchange transactions or ancillary activities.

### Expense

When an expense is incurred for purposes for which there are both restricted and unrestricted assets available, it is KUB’s policy to apply those expenses to restricted assets to the extent such are available and then to unrestricted assets.

## Net Position

GASB Statement No. 63 requires the classification of net position into three components – net investment in capital assets; net position-restricted; and net position-unrestricted.

These classifications are defined as follows:

- Net investment in capital assets – This component of net position consists of capital assets, including restricted capital assets, net of accumulated depreciation and reduced by the outstanding balances of any bonds, mortgages, notes, or other borrowings that are attributable to the acquisition, construction, or improvement of those assets. Deferred outflows of resources and deferred inflows of resources that are attributable to the acquisition, construction, or improvement of those assets or related debt also should be included in this component of net position. If there are significant unspent related debt proceeds at year end, the portion of the debt attributable to the unspent proceeds are not included in the calculation of net investment in capital assets. Rather, that portion of the debt is included in the same net position component as the unspent proceeds.

- Net position-restricted – This component of net position consists of restricted assets reduced by liabilities and deferred inflows of resources related to those assets. Generally, a liability relates to restricted assets if the asset results from a resource flow that also results in the recognition of a liability or if the liability will be liquidated with the restricted assets reported.

- Net position-unrestricted – This component of net position consists of assets, deferred outflows of resources, liabilities, and deferred inflows of resources that are not included in the determination of net investment in capital assets or the restricted component of net position.

## Contributions in Aid of Construction and Capital Contributions

Contributions in aid of construction are cash collections from customers or others for a particular purpose, generally the construction of new facilities to serve new customers in excess of the investment KUB is willing to make for a particular incremental revenue source. KUB reduces the plant account balances to which contributions relate by the actual amount of the contribution and recognizes the contributions as non-operating revenue in accordance with Statement No. 62.

Capital contributions represent contributions of utility plant infrastructure constructed by developers and others in industrial parks and other developments, and transferred to KUB upon completion of construction and the initiation of utility service. In accordance with GASB Statement No. 33, *Accounting and Financial Reporting for Nonexchange Transactions*, such contributions are recognized as revenues and capital assets upon receipt.

## Inventories

Inventories, consisting of plant materials and operating supplies, are valued at the lower of average cost or replacement value.

### Change in Method of Accounting for Pension

In June 2012, the Governmental Accounting Standards Board (GASB) issued Statement No. 68, *Accounting and Financial Reporting for Pensions – An Amendment of GASB Statement No. 27*, which revises existing standards of financial reporting for pensions. In addition, during November 2013, GASB issued Statement No. 71, *Pension Transition for Contributions Made Subsequent to the Measurement Date*, which requires deferred outflow of resources to be recognized for any contributions made subsequent to the measurement date of the beginning net pension liability. These standards were adopted by KUB in 2015 and resulted in a restatement of 2015 beginning net position of $763,975.

### Pension Plan

KUB's employees are participants in the Knoxville Utilities Board Pension Plan as authorized by the Charter of the City of Knoxville §1107(J) (Note 10). KUB's policy is to fully fund the annual actuarially determined contributions. As required by GASB Statement No. 68, KUB measures net pension liability as total pension liability less the amount of the Plan's fiduciary net position. The amounts reported as of June 30, 2016 and 2015 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2016 and 2015 are based on a December 31, 2015 and 2014 measurement date, respectively.

### Investments

Investments are carried at fair value as determined by quoted market prices at the reporting date.

### Self-Insurance

KUB has established self-insurance programs covering portions of workers' compensation, employee health, environmental liability, general liability, property and casualty liability, and automobile liability claims. A liability is accrued for claims as they are incurred. When applicable, claims in excess of the self-insured risk are covered by KUB's insurance carrier. Additionally, KUB provides certain lifetime health benefits to eligible retired employees under a self-insurance plan administered by a third party.

### Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. These estimates are based on historical experience and various other assumptions that KUB believes are reasonable under the circumstances. However, future events are subject to change and the best estimates and judgments routinely require adjustment. Estimates are used for, but not limited to, inventory valuation, allowance for uncollectible accounts, depreciable lives of plant assets, unbilled revenue volumes, pension trust valuations, OPEB trust valuations, insurance liability reserves, and potential losses from contingencies and litigation. Actual results could differ from those estimates.

### Restricted and Designated Assets

Certain assets are restricted by bond resolutions for the construction of utility plant and debt repayment. Certain additional assets are designated by management for contingency purposes and economic development.

### Cash Equivalents

For purposes of the Statements of Cash Flows, KUB considers all unrestricted and undesignated highly liquid investments with an original maturity of three months or less when purchased to be cash equivalents.

### Deferred Outflows and Inflows of Resources

Deferred outflows of resources are items previously reported as assets related to the acquisition of assets or related debt which are amortized over the life of the asset or debt. Deferred inflows of resources are items previously reported as liabilities related to the acquisition of assets or related debt which are amortized over the life of the asset or debt. KUB records costs associated with the gain or loss on refunding of debt as either a deferred outflow or inflow based on the parameters of Statement No. 65. Deferred outflows of resources also include employer pension contributions made subsequent to the measurement date of the net pension liability and before the end of the employer's reporting period in accordance with Statement No. 71. Deferred inflows and deferred outflows also include the net difference between projected and actual earnings on pension plan investments and differences between expected and actual experience in accordance with Statement No. 68.

### Debt Premium/Discount

KUB records unamortized premium and discount on debt as a separate line item in the Long Term Debt section of the Financial Statements. Amortization of these amounts is recorded over the life of the applicable debt as amortization expense.

### Debt Issuance Costs

In accordance with regulatory accounting, KUB records debt issuance costs as an Other Asset. Amortization of these amounts is recorded over the life of the applicable debt as amortization expense.

### Deferred Gain/Loss on Refunding of Debt

KUB records costs associated with the gain or loss on refunding of debt as either a deferred outflow or inflow based on the parameters of Statement No. 65. In accordance with FERC presentation, amortization of these amounts is recorded over the life of the applicable debt as amortization expense.

### Compensated Absences

KUB accrues a liability for earned but unpaid paid-time off (PTO) days.

### TVA Conservation Program

KUB previously served as a fiscal intermediary for TVA whereby loans were made to KUB customers by TVA to be used in connection with TVA's Energy Right Residential Program. While KUB still holds existing loans, no loans were made through this program after October 31, 2015.

### Subsequent Events

KUB has evaluated events and transactions through October 27, 2016, the date these financial statements were issued, for items that should potentially be recognized or disclosed. KUB sold $40 million in electric system revenue bonds in July 2016 for the purpose of funding electric system capital improvements in fiscal year 2017. The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.75 percent. KUB sold $12 million in natural gas system revenue bonds in July 2016 for the purpose of funding natural gas system capital improvements in fiscal year 2017. The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.78 percent. KUB sold $25 million in water system revenue bonds in July 2016 for the purpose of funding water system capital improvements in fiscal year 2017. The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.72 percent. KUB sold $20.9 million in water system revenue refunding bonds in July 2016 with an average interest rate of 2.5 percent to advance refund $19.9 million of outstanding bonds with an average interest rate of 4.18 percent. The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.07 percent. The net proceeds of $22 million (after payment of $0.3 million in underwriting fees and other issuance costs plus premium of $1 million and an additional issuer equity contribution of $0.4 million) were used to purchase U.S. government securities. Those securities were deposited in an irrevocable trust with an escrow agent to provide for all future debt service payments on the bonds. As a result, the bonds will be considered defeased and the liability for those bonds will be removed from the financial statements. This refunding decreases total debt service payments over the next 17 years by $2.5 million resulting in an economic gain (difference between the present values of the debt service payments on the old and new debt) of $2.2 million. KUB sold $20 million in wastewater system revenue bonds in July 2016 for the purpose of funding wastewater system capital improvements in fiscal year 2017. The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.72 percent.

### Purchased Power Adjustment

In October 2002, the Board adopted a Purchased Power Adjustment (PPA) to address changes in wholesale power costs. The PPA was established in response to an amendment to KUB's power supply contract under which, among other things, TVA relinquished its regulatory authority over KUB retail electric rates. The PPA allows KUB to promptly adjust retail electric rates in response to wholesale rate changes or adjustments, thus ensuring that KUB will recover the costs incurred for purchased power. These changes in electric costs are reflected as adjustments to the base electric rates established by the Board. The rate-setting authority vested in the Board by the City Charter meets the "self-regulated" provisions of Statement No. 62, *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements*, and KUB meets the remaining criteria of Statement No. 62.

TVA implemented a fuel cost adjustment in October 2006 applied on a quarterly basis to wholesale power rates. TVA's quarterly fuel cost adjustment became a monthly fuel cost adjustment effective October 2009. KUB flows changes to wholesale power rates from TVA's fuel cost adjustment mechanism directly through to its retail electric rates via the PPA.

In April 2011, TVA modified its wholesale rate structure to demand and energy billing for its distributors. In response, KUB revised its PPA to include a deferred accounting component to ensure appropriate matching of revenue and expense and cost recovery. KUB will adjust its retail rates on an annual basis to flow any over or under recovery of wholesale power costs through to its customers via the PPA.

Under the PPA mechanism, KUB tracks the actual over/(under) recovered amount in the Over/(Under) Recovered Purchased Power Costs accounts. These accounts are rolled into the PPA rate adjustments thereby assuring that any over/(under) recovered amounts are promptly passed on to the KUB's electric customers. The amount of over/(under) recovered cost was ($1,379,643) at June 30, 2016 and $500,522 at June 30, 2015.

### Purchased Gas Adjustment

In November 1990, the Board implemented a deferred Purchased Gas (Cost) Adjustment (PGA) mechanism, which allows KUB to flow changes in purchased gas costs through to its customers. These changes in gas costs are reflected as adjustments to the base gas rates established by the Board. The rate-setting authority vested in the Board by the City Charter meets the "self-regulated" provisions of GASB Statement No. 62 (Statement No. 62), *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements*.

The PGA is intended to assure that KUB recovers the total cost of natural gas purchased, transported and/or reserved for delivery to its sales and transportation customers on an equitable basis. The PGA is also intended to assure that no excess or deficient cost recovery from KUB's customers occurs.

Under the PGA mechanism, KUB tracks the actual over/(under) recovered amount in the Over/(Under) Recovered Purchased Gas Costs accounts. These accounts are rolled into the PGA rate adjustment on June 30 of each year thereby assuring that any over/(under) recovered amounts are passed on to KUB's gas system customers. The amount of over/(under) recovered cost was ($2,178,653) at June 30, 2016 and $1,063,761 at June 30, 2015.

### Recently Issued Accounting Pronouncements

In June 2015, the GASB issued two related Statements that affect accounting and financial reporting by state and local governments for postemployment benefits other than pensions (OPEB). GASB Statement No. 74 (Statement No. 74), *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans,* addresses reporting by OPEB plans that administer benefits on behalf of governments. GASB Statement No. 75 (Statement No. 75), *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions,* addresses reporting by governments that provide OPEB to their employees. Statement No. 74 is effective for fiscal years beginning after June 15, 2016, and Statement No. 75 is effective for fiscal years beginning after June 15, 2017.

In March 2016, the GASB issued GASB Statement No. 82 (Statement No. 82), *Pension Issues – An amendment of GASB Statements No. 67, No. 68 and No. 73*. The objective of this Statement is to address certain issues that have been raised with respect to the presentation of payroll-related measures in required supplementary information, the selection of assumptions and treatment of deviations from the guidance in an Actuarial Standard of Practice for financial reporting purposes and the classification of payments made by employers to satisfy employee contribution obligations. Statement No. 82 is effective for fiscal years beginning after June 15, 2016.

KUB has not elected early implementation of these standards and has not completed the process of evaluating the impact of these statements on its financial statements.

## 3. Deposits and Investments

KUB follows the provisions of Statement No. 40 of the Governmental Accounting Standards Board, *Deposit and Investment Risk Disclosures an amendment of GASB Statement No. 3*. This Statement establishes and modifies disclosure requirements for state and local governments related to deposit and investment risks. KUB classifies its fair value measurements within the fair value hierarchy established by Statement No. 72 of the Governmental Accounting Standards Board, *Fair Value Measurement and Application*.

KUB's investment policy provides the framework for the administration and investment of cash deposits. The investment policy follows Tennessee State law and defines the parameters under which KUB funds should be invested. State law authorizes KUB to invest in obligations of the United States Treasury, its agencies and instrumentalities; certificates of deposit; repurchase agreements; money market funds; and the State Treasurer's Investment Pool.

*Interest Rate Risk.* KUB's primary investment objectives are to place investments in a manner to ensure the preservation of capital, remain sufficiently liquid to meet all operating requirements, and maximize yield of return. KUB minimizes its exposure to interest rate risk by adhering to Tennessee State law requirements for the investment of public funds. This includes limiting investments to those types described above and limiting maturity horizons. The maximum maturity is four years from the date of investment. KUB also limits its exposure by holding investments to maturity unless cash flow requirements dictate otherwise.

*Credit Risk.* KUB's investment policy, as required by state law, is to apply the prudent-person rule: Investments are made with judgment and care, under circumstances then prevailing, which persons of prudence, discretion, and intelligence exercise in the management of their own affairs, not for speculation, but for investment, considering the probable income to be derived, as well as the probable safety of their capital. KUB's Agency Bond investments are rated Aaa by Moody's Investors Service.

*Custodial Credit Risk*. KUB's investment policy limits exposure to custodial credit risk by restricting investments to a standard set forth by State law. All deposits in excess of federal depository insurance limits are collateralized with government securities held in KUB's name by a third-party custodian bank(s) acting as KUB's agent(s), or through the State of Tennessee's collateral pool. Financial institutions that participate in the collateral pool are subject to special assessment; therefore, the deposits are considered insured. A portion of KUB's investments are generally held in the State of Tennessee Local Government Investment Pool (LGIP). The LGIP is a part of the State Pooled Investment Fund and is sponsored by the State of Tennessee Treasury Department. Tennessee Code Annotated ¶9-4-701 *et seq.* authorizes local governments to invest in the LGIP. None of KUB's investments are exposed to custodial credit risk.

Classification of deposits and investments per Statement of Net Position:

| | **2016** | **2015** |
|---|---|---|
| Current assets | | |
| Cash and cash equivalents | $ 78,946,397 | $ 124,892,534 |
| Short-term contingency fund investments | 25,699,396 | 6,296,090 |
| Other assets | | |
| Long-term contingency fund investments | 68,914,368 | 83,847,641 |
| Restricted assets | | |
| Unused bond proceeds | - | 46,053,447 |
| Bond fund | 28,935,445 | 26,154,107 |
| Other funds | 21,418 | 43,897 |
| | $ 202,517,024 | $ 287,287,716 |

The above amounts do not include accrued interest of $269,667 in fiscal year 2016 and $189,556 in fiscal year 2015. Interest income is recorded on an accrual basis.

Investments and maturities of KUB's deposits and investments as held by financial institutions as of June 30, 2016:

| | **Deposit and Investment Maturities (in Years)** | | |
|---|---|---|---|
| | **Fair Value** | **Less Than 1** | **1-5** |
| Supersweep NOW and Other Deposits | $ 100,126,611 | $ 100,126,611 | $ - |
| State Treasurer's Investment Pool | 15,439,274 | 15,439,274 | - |
| Agency Bonds | 107,268,539 | 25,699,396 | 81,569,143 |
| Certificates of Deposits | 13,393,246 | 10,968,246 | 2,425,000 |
| | $ 236,227,670 | $ 152,233,527 | $ 83,994,143 |

KUB categorizes its fair value measurements within the fair value hierarchy established by Statement No. 72 of the Governmental Accounting Standards Board, *Fair Value Measurement and Application*. The hierarchy is based on the valuation inputs used to measure the fair value of an asset with a maturity at purchase greater than one year. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs.

KUB has the following recurring fair value measurements as of June 30, 2016:

- U.S. Agency bonds of $81,569,143, which have a maturity at purchase of greater than one year, are valued using quoted market prices (Level 1 inputs)

- Certificates of deposits of $2,425,000, which have a maturity at purchase of greater than one year, are valued at interest rates and yield curves observable at commonly quoted intervals (Level 2 inputs)

KUB measures investments with a maturity at purchase of one year or less at amortized cost, which is considered a fair value equivalent due to their nature. Investments in the State Treasurer's Investment Pool are measured at net asset value (NAV) per share.

## 4. Accounts Receivable

Accounts receivable consists of the following:

| | 2016 | 2015 |
|---|---|---|
| Wholesale and retail customers | | |
| Billed services | $ 42,412,998 | $ 47,996,899 |
| Unbilled services | 26,904,562 | 25,602,160 |
| Other | 4,433,444 | 4,966,423 |
| Allowance for uncollectible accounts | (805,684) | (720,939) |
| | $ 72,945,320 | $ 77,844,543 |

## 5. Accounts Payable and Accruals

Accounts payable and accruals consist of the following:

| | 2016 | 2015 |
|---|---|---|
| Trade accounts | $ 50,663,005 | $ 50,651,280 |
| Salaries and wages | 2,129,489 | 1,509,808 |
| Advances on pole rental | 2,135,320 | 1,147,346 |
| Self-insurance liabilities | 1,758,352 | 1,699,525 |
| Other current liabilities | 15,586,889 | 15,372,476 |
| | $ 72,273,055 | $ 70,380,435 |

*(Space left intentionally blank)*

## 6. Long-Term Obligations

| Electric | Balance June 30, 2015 | Additions | Payments | Defeased | Balance June 30, 2016 | Amounts Due Within One Year |
|---|---|---|---|---|---|---|
| W-2005 - 3.0 - 4.5% | $ 31,350,000 | $ - | $ 1,870,000 | $ - | $ 29,480,000 | $ 1,940,000 |
| X-2006 - 4.0 - 5.0% | 1,825,000 | - | 1,825,000 | - | - | - |
| Y-2009 - 2.5 - 5.0% | 6,875,000 | - | 1,600,000 | - | 5,275,000 | 1,675,000 |
| Z-2010 - 1.45 - 6.35% | 25,205,000 | - | 1,285,000 | - | 23,920,000 | 1,305,000 |
| AA-2012 - 3.0 - 5.0% | 34,840,000 | - | 990,000 | - | 33,850,000 | 2,540,000 |
| BB-2012 - 3.0 - 4.0% | 33,875,000 | - | 650,000 | - | 33,225,000 | 675,000 |
| CC-2013 - 3.0 - 4.0% | 9,535,000 | - | 50,000 | - | 9,485,000 | 450,000 |
| DD-2014 - 2.0 - 4.0% | 40,000,000 | - | 675,000 | - | 39,325,000 | 700,000 |
| EE-2015 - 2.0 - 5.0% | 28,550,000 | - | 125,000 | - | 28,425,000 | 150,000 |
| FF-2015 - 2.0 - 5.0% | 35,000,000 | - | - | - | 35,000,000 | 675,000 |
| Total bonds | $ 247,055,000 | $ - | $ 9,070,000 | $ - | $ 237,985,000 | $ 10,110,000 |
| Unamortized premium | 10,345,326 | - | 617,044 | - | 9,728,282 | - |
| Total long term debt | $ 257,400,326 | $ - | $ 9,687,044 | $ - | $ 247,713,282 | $ 10,110,000 |
| **Gas** | | | | | | |
| L-2005 - 3.0 - 4.75% | $ 10,715,000 | $ - | $ 695,000 | $ - | $ 10,020,000 | $ 725,000 |
| N-2007 - 4.0 - 5.0% | 550,000 | - | - | - | 550,000 | 550,000 |
| O-2010 - 2.0 - 3.0% | 3,475,000 | - | 3,475,000 | - | - | - |
| P-2010 - 3.3 - 6.2% | 12,000,000 | - | - | - | 12,000,000 | 540,000 |
| Q-2012 - 2.0 - 4.0% | 23,345,000 | - | 700,000 | - | 22,645,000 | 2,065,000 |
| R-2012 - 2.0 - 4.0% | 9,600,000 | - | 200,000 | - | 9,400,000 | 400,000 |
| S-2013 - 2.0 - 4.0% | 11,480,000 | - | 50,000 | - | 11,430,000 | 570,000 |
| T-2013 - 2.0 - 4.6% | 24,600,000 | - | 200,000 | - | 24,400,000 | 500,000 |
| U-2015 - 2.0 - 3.5% | 11,780,000 | - | 100,000 | - | 11,680,000 | 100,000 |
| Total bonds | $ 107,545,000 | $ - | $ 5,420,000 | $ - | $ 102,125,000 | $ 5,450,000 |
| Unamortized premium | 3,794,404 | - | 305,551 | - | 3,488,853 | - |
| Total long term debt | $ 111,339,404 | $ - | $ 5,725,551 | $ - | $ 105,613,853 | $ 5,450,000 |
| **Water** | | | | | | |
| S-2005 - 3.5 - 5.0% | $ 6,735,000 | $ - | $ 440,000 | $ - | $ 6,295,000 | $ 465,000 |
| T-2007 - 4.0 - 5.5% | 1,450,000 | - | 700,000 | - | 750,000 | 750,000 |
| U-2009 - 3.0 - 4.5% | 23,450,000 | - | 825,000 | - | 22,625,000 | 875,000 |
| W-2011 - 2.0 - 4.0% | 23,350,000 | - | 550,000 | - | 22,800,000 | 550,000 |
| X-2012 - 3.0 - 5.0% | 9,150,000 | - | 485,000 | - | 8,665,000 | 515,000 |
| Y-2013 - 3.0 - 4.0% | 9,235,000 | - | 265,000 | - | 8,970,000 | 280,000 |
| Z-2013 - 2.0 - 5.0% | 24,150,000 | - | 475,000 | - | 23,675,000 | 500,000 |
| AA-2014 - 2.0 - 4.0% | 7,875,000 | - | 150,000 | - | 7,725,000 | 150,000 |
| BB-2015 - 2.0 - 5.0% | 23,005,000 | - | 170,000 | - | 22,835,000 | 100,000 |
| CC-2015 - 2.0 - 4.0% | 20,000,000 | - | 350,000 | - | 19,650,000 | 375,000 |
| Total bonds | $ 148,400,000 | $ - | $ 4,410,000 | $ - | $ 143,990,000 | $ 4,560,000 |
| Unamortized premium | 2,866,890 | - | 164,708 | - | 2,702,182 | - |
| Total long term debt | $ 151,266,890 | $ - | $ 4,574,708 | $ - | $ 146,692,182 | $ 4,560,000 |
| **Wastewater** | | | | | | |
| 2005 B - 3.0 - 5.0% | $ 16,045,000 | $ - | $ 1,410,000 | $ - | $ 14,635,000 | $ 1,470,000 |
| 2008 - 4.0 - 6.0% | 11,000,000 | - | 4,450,000 | - | 6,550,000 | 4,600,000 |
| 2010 - 6.3 - 6.5% | 30,000,000 | - | - | - | 30,000,000 | - |
| 2010C - 1.18 - 6.1% | 65,750,000 | - | 1,250,000 | - | 64,500,000 | 1,400,000 |
| 2012A - 2.0 - 4.0% | 15,415,000 | - | 820,000 | - | 14,595,000 | 840,000 |
| 2012B - 1.25 - 5.0% | 63,275,000 | - | 925,000 | - | 62,350,000 | 975,000 |
| 2013A - 2.0 - 4.0% | 112,325,000 | - | 610,000 | - | 111,715,000 | 620,000 |
| 2014A - 2.0 - 4.0% | 29,625,000 | - | 425,000 | - | 29,200,000 | 450,000 |
| 2015A - 3.0 - 5.0% | 129,825,000 | - | 465,000 | - | 129,360,000 | 125,000 |
| 2015B - 3.0 - 5.0% | 30,000,000 | - | 575,000 | - | 29,425,000 | 450,000 |
| Total bonds | $ 503,260,000 | $ - | $ 10,930,000 | $ - | $ 492,330,000 | $ 10,930,000 |
| Unamortized premium | 11,625,190 | - | 558,966 | - | 11,066,224 | - |
| Total long term debt | $ 514,885,190 | $ - | $ 11,488,966 | $ - | $ 503,396,224 | $ 10,930,000 |
| **Consolidated** | | | | | | |
| Total Bonds | $ 1,006,260,000 | $ - | $ 29,830,000 | $ - | $ 976,430,000 | $ 31,050,000 |
| Total unamortized premium | 28,631,810 | - | 1,646,269 | - | 26,985,541 | - |
| Total long term debt | $ 1,034,891,810 | $ - | $ 31,476,269 | $ - | $ 1,003,415,541 | $ 31,050,000 |

| **Electric** | **Balance June 30, 2014** | **Additions** | **Payments** | **Defeased** | **Balance June 30, 2015** | **Amounts Due Within One Year** |
|---|---|---|---|---|---|---|
| W-2005 - 3.0 - 4.5% | $ 33,140,000 | $ - | $ 1,790,000 | $ - | $ 31,350,000 | $ 1,870,000 |
| X-2006 - 4.0 - 5.0% | 3,550,000 | - | 1,725,000 | - | 1,825,000 | 1,825,000 |
| Y-2009 - 2.5 - 5.0% | 35,900,000 | - | 1,525,000 | 27,500,000 | 6,875,000 | 1,600,000 |
| Z-2010 - 1.45 - 6.35% | 26,470,000 | - | 1,265,000 | - | 25,205,000 | 1,285,000 |
| AA-2012 - 3.0 - 5.0% | 35,795,000 | - | 955,000 | - | 34,840,000 | 990,000 |
| BB-2012 - 3.0 - 4.0% | 34,500,000 | - | 625,000 | - | 33,875,000 | 650,000 |
| CC-2013 - 3.0 - 4.0% | 9,585,000 | - | 50,000 | - | 9,535,000 | 50,000 |
| DD-2014 - 2.0 - 4.0% | - | 40,000,000 | - | - | 40,000,000 | 675,000 |
| EE-2015 - 2.0 - 5.0% | - | 28,550,000 | - | - | 28,550,000 | 125,000 |
| FF-2015 - 2.0 - 5.0% | - | 35,000,000 | - | - | 35,000,000 | - |
| Total bonds | $ 178,940,000 | $ 103,550,000 | $ 7,935,000 | $ 27,500,000 | $ 247,055,000 | $ 9,070,000 |
| Unamortized premium | 5,779,555 | 5,617,592 | 411,968 | 639,853 | 10,345,326 | - |
| Total long term debt | $ 184,719,555 | $ 109,167,592 | $ 8,346,968 | $ 28,139,853 | $ 257,400,326 | $ 9,070,000 |
| **Gas** | | | | | | |
| L-2005 - 3.0 - 4.75% | $ 11,380,000 | $ - | $ 665,000 | $ - | $ 10,715,000 | $ 695,000 |
| N-2007 - 4.0 - 5.0% | 12,000,000 | - | - | 11,450,000 | 550,000 | - |
| O-2010 - 2.0 - 3.0% | 6,825,000 | - | 3,350,000 | - | 3,475,000 | 3,475,000 |
| P-2010 - 3.3 - 6.2% | 12,000,000 | - | - | - | 12,000,000 | - |
| Q-2012 - 2.0 - 4.0% | 24,030,000 | - | 685,000 | - | 23,345,000 | 700,000 |
| R-2012 - 2.0 - 4.0% | 9,800,000 | - | 200,000 | - | 9,600,000 | 200,000 |
| S-2013 - 2.0 - 4.0% | 11,530,000 | - | 50,000 | - | 11,480,000 | 50,000 |
| T-2013 - 2.0 - 4.6% | 24,800,000 | - | 200,000 | - | 24,600,000 | 200,000 |
| U-2015 - 2.0 - 3.5% | - | 11,780,000 | - | - | 11,780,000 | 100,000 |
| Total bonds | $ 112,365,000 | $ 11,780,000 | $ 5,150,000 | $ 11,450,000 | $ 107,545,000 | $ 5,420,000 |
| Unamortized premium | 3,434,514 | 701,501 | 296,934 | 44,677 | 3,794,404 | - |
| Total long term debt | $ 115,799,514 | $ 12,481,501 | $ 5,446,934 | $ 11,494,677 | $ 111,339,404 | $ 5,420,000 |
| **Water** | | | | | | |
| R-2005 - 3.5 - 5.0% | $ 255,000 | $ - | $ 255,000 | $ - | $ - | $ - |
| S-2005 - 3.5 - 5.0% | 7,160,000 | - | 425,000 | - | 6,735,000 | 440,000 |
| T-2007 - 4.0 - 5.5% | 24,350,000 | - | 675,000 | 22,225,000 | 1,450,000 | 700,000 |
| U-2009 - 3.0 - 4.5% | 24,250,000 | - | 800,000 | - | 23,450,000 | 825,000 |
| W-2011 - 2.0 - 4.0% | 23,900,000 | - | 550,000 | - | 23,350,000 | 550,000 |
| X-2012 - 3.0 - 5.0% | 9,610,000 | - | 460,000 | - | 9,150,000 | 485,000 |
| Y-2013 - 3.0 - 4.0% | 9,260,000 | - | 25,000 | - | 9,235,000 | 265,000 |
| Z-2013 - 2.0 - 5.0% | 24,600,000 | - | 450,000 | - | 24,150,000 | 475,000 |
| AA-2014 - 2.0 - 4.0% | - | 8,000,000 | 125,000 | - | 7,875,000 | 150,000 |
| BB-2015 - 2.0 - 5.0% | - | 23,005,000 | - | - | 23,005,000 | 170,000 |
| CC-2015 - 2.0 - 4.0% | - | 20,000,000 | - | - | 20,000,000 | 350,000 |
| Total bonds | $ 123,385,000 | $ 51,005,000 | $ 3,765,000 | $ 22,225,000 | $ 148,400,000 | $ 4,410,000 |
| Unamortized premium | 1,518,734 | 1,493,612 | 102,471 | 42,985 | 2,866,890 | - |
| Total long term debt | $ 124,903,734 | $ 52,498,612 | $ 3,867,471 | $ 22,267,985 | $ 151,266,890 | $ 4,410,000 |
| **Wastewater** | | | | | | |
| 2005 A - 4.0 - 5.0% | $ 36,550,000 | $ - | $ - | $ 36,550,000 | $ - | $ - |
| 2005 B - 3.0 - 5.0% | 17,395,000 | - | 1,350,000 | - | 16,045,000 | 1,410,000 |
| 2007 - 4.0 - 5.0% | 75,000,000 | - | - | 75,000,000 | - | - |
| 2008 - 4.0 - 6.0% | 30,975,000 | - | 4,300,000 | 15,675,000 | 11,000,000 | 4,450,000 |
| 2010 - 6.3 - 6.5% | 30,000,000 | - | - | - | 30,000,000 | - |
| 2010C - 1.18 - 6.1% | 66,850,000 | - | 1,100,000 | - | 65,750,000 | 1,250,000 |
| 2012A - 2.0 - 4.0% | 16,215,000 | - | 800,000 | - | 15,415,000 | 820,000 |
| 2012B - 1.25 - 5.0% | 64,150,000 | - | 875,000 | - | 63,275,000 | 925,000 |
| 2013A - 2.0 - 4.0% | 112,915,000 | - | 590,000 | - | 112,325,000 | 610,000 |
| 2014A - 2.0 - 4.0% | - | 30,000,000 | 375,000 | - | 29,625,000 | 425,000 |
| 2015A - 3.0 - 5.0% | - | 129,825,000 | - | - | 129,825,000 | 465,000 |
| 2015B - 3.0 - 5.0% | - | 30,000,000 | - | - | 30,000,000 | 575,000 |
| Total bonds | $ 450,050,000 | $ 189,825,000 | $ 9,390,000 | $ 127,225,000 | $ 503,260,000 | $ 10,930,000 |
| Unamortized premium | 4,154,409 | 8,539,211 | 312,636 | 755,794 | 11,625,190 | - |
| Total long term debt | $ 454,204,409 | $ 198,364,211 | $ 9,702,636 | $ 127,980,794 | $ 514,885,190 | $ 10,930,000 |
| **Consolidated** | | | | | | |
| Total Bonds | $ 864,740,000 | $ 356,160,000 | $ 26,240,000 | $ 188,400,000 | $ 1,006,260,000 | $ 29,830,000 |
| Total unamortized premium | 14,887,211 | 16,351,916 | 1,124,009 | 1,483,309 | 28,631,810 | - |
| Total long term debt | $ 879,627,211 | $ 372,511,916 | $ 27,364,009 | $ 189,883,309 | $ 1,034,891,810 | $ 29,830,000 |

Debt service over remaining term of the debt is as follows:

| Fiscal Year | Principal | Interest | Total |
|---|---|---|---|
| 2017 | 31,050,000 | 38,413,632 | 69,463,632 |
| 2018 | 32,195,000 | 37,216,662 | 69,411,662 |
| 2019 | 33,415,000 | 35,933,587 | 69,348,587 |
| 2020 | 34,810,000 | 34,573,291 | 69,383,291 |
| 2021 | 36,200,000 | 33,141,894 | 69,341,894 |
| 2022-2026 | 197,410,000 | 141,956,861 | 339,366,861 |
| 2027-2031 | 192,140,000 | 104,499,778 | 296,639,778 |
| 2032-2036 | 149,440,000 | 72,309,054 | 221,749,054 |
| 2037-2041 | 150,245,000 | 43,627,770 | 193,872,770 |
| 2042-2046 | 105,150,000 | 14,594,919 | 119,744,919 |
| 2047-2050 | 14,375,000 | 1,076,675 | 15,451,675 |
| Total | $ 976,430,000 | $ 557,344,123 | $ 1,533,774,123 |

The Divisions have pledged sufficient revenue, after deduction of all current operating expenses (exclusive of tax equivalents), to meet bond principal and interest payments of revenue bonds when due. Such bond requirements are being met through monthly deposits to the bond funds as required by the bond covenants. As of June 30, 2016 these requirements had been satisfied.

During fiscal year 2006, KUB's Electric Division issued Series W 2005 bonds in part to retire certain existing debt and fund electric system capital improvements. Concurrent with the issuance of these bonds, KUB transferred funds to an irrevocable trust to pay a portion of the Series U 2001 bonds, as such amounts mature. During fiscal year 2009, KUB's Electric Division issued Series Y 2009 bonds to fund electric system capital improvements. During fiscal year 2011, KUB's Electric Division issued series Z 2010 bonds to fund electric system capital improvements. The bonds were issued as federally taxable Build America Bonds with a 35 percent interest payment rebate to be received from the United States Government for each interest payment. Effective October 1, 2015 these bonds became subject to a 6.8 percent reduction in rebate payment amounts due to the United States Government sequestration. The sequestration is effective until intervening Congressional action, at which time the sequestration rate is subject to change. During fiscal year 2012, KUB's Electric Division issued Series AA 2012 bonds to retire a portion of outstanding Series V 2004 bonds. During fiscal year 2013, KUB's Electric Division issued Series BB 2012 bonds to fund electric system capital improvements. KUB's Electric Division also issued Series CC 2013 bonds to retire a portion of outstanding Series X 2006 bonds. During fiscal year 2015, KUB's Electric Division issued Series EE 2015 bonds to retire a portion of outstanding Series Y 2009 bonds. KUB's Electric Division also issued Series DD 2014 and Series FF 2015 to fund electric system capital improvements. In prior years, certain revenue bonds were defeased by placing the proceeds of new bonds in an irrevocable trust to provide for all future debt service payments on the old bonds. Accordingly, the liability for the defeased bonds, $27.5 million at June 30, 2016, and the trust account assets are not included in the financial statements.

During fiscal year 2006, KUB's Gas Division issued Series L 2005 bonds in part to retire certain existing debt and fund gas system capital improvements. Concurrent with the issuance of these bonds, KUB transferred funds to an irrevocable trust to pay a portion of the Series J 2001 bonds, as such amounts mature. During fiscal year 2008, KUB's Gas Division issued Series N 2007 to fund gas system capital improvements. During fiscal year 2011, KUB's Gas Division issued Series P 2010 bonds to fund gas system capital improvements. The bonds were issued as federally taxable Build America Bonds with a 35 percent interest payment rebate to be received from the United States Government for each interest payment. Effective October 1, 2015, these bonds became subject to a 6.8 percent reduction in rebate payment amounts due to the United States Government sequestration. The sequestration is effective until intervening Congressional action, at which time the sequestration rate is subject to change. During fiscal year 2012, KUB's Gas Division issued Series Q 2012 bonds to retire Series K 2004 bonds. During fiscal year 2013, KUB's Gas Division issued Series R 2012 bonds to fund gas system capital improvements. KUB's Gas Division also issued Series S 2013 bonds to retire Series M 2006 outstanding bonds. During fiscal year 2014, KUB's Gas Division issued Series T 2013 to fund gas system capital improvements. During fiscal year 2015, KUB's Gas Division issued Series U 2015 bonds to retire Series N 2007 outstanding bonds. In prior years, certain revenue bonds were defeased by placing the proceeds of new bonds in an irrevocable trust to provide for all future debt service payments on the old bonds. Accordingly, the liability for the defeased bonds, $11.5 million at June 30, 2016, and the trust account assets are not included in the financial statements.

During fiscal year 2006, KUB's Water Division issued Series S 2005 bonds to retire certain existing debt and fund water system capital improvements. Concurrent with the issuance of these bonds, KUB transferred funds to an irrevocable trust to pay a portion of the Series P 2001 bonds, as such amounts mature. During fiscal year 2008, KUB's Water Division issued Series T 2007 bonds to fund water system capital improvements. During fiscal year 2010, KUB's Water Division issued Series U 2009 bonds to fund water system capital improvements. During fiscal year 2012, KUB's Water Division issued Series W 2011 bonds to fund water system capital improvements. KUB's Water Division also issued Series X 2012 bonds to retire Series Q 2004 bonds. During fiscal year 2013, KUB's Water Division issued Series Y 2013 bonds to retire a portion of outstanding Series R 2005 bonds. During fiscal year 2014, KUB's Water Division issued Series Z 2013 bonds to fund water system capital improvements. During fiscal year 2015, KUB's Water Division issued Series BB 2015 bonds to retire a portion of outstanding Series T 2007 bonds. KUB's Water Division also issued Series AA 2014 and Series CC 2015 bonds to fund water system capital improvements. In prior years, certain revenue bonds were defeased by placing the proceeds of new bonds in an irrevocable trust to provide for all future debt service payments on the old bonds. Accordingly, the liability for the defeased bonds, $22.2 million at June 30, 2016, and the trust account assets are not included in the financial statements.

During fiscal year 2006, KUB's Wastewater Division issued Series 2005B bonds in part to retire certain existing debt and fund wastewater system capital improvements. Concurrent with the issuance of these bonds, KUB transferred funds to an irrevocable trust to pay a portion of the Series 1998 bonds and Series 2001A bonds, as such amounts mature. During fiscal year 2009, KUB's Wastewater Division issued Series 2008 bonds to fund wastewater system capital improvements. During fiscal year 2010, KUB's Wastewater Division issued Series 2010 bonds to fund capital improvements. These bonds were issued as federally taxable Build America Bonds with a 35 percent interest payment rebate to be received from the United States Government for each interest payment. Effective October 1, 2015, these bonds became subject to a 6.8 percent reduction in rebate payment amounts due to the United States Government sequestration. The sequestration is effective until intervening Congressional action, at which time the sequestration rate is subject to change. During fiscal year 2011, KUB's Wastewater Division issued Series 2010C bonds to fund capital improvements. These bonds were issued as federally taxable Build America Bonds with a 35 percent interest payment rebate to be received from the United States Government for each interest payment. Effective October 1, 2015, these bonds became subject to a 6.8 percent reduction in rebate payment amounts due to the United States Government sequestration. The sequestration is effective until intervening Congressional action, at which time the sequestration rate is subject to change. During fiscal year 2012, KUB's Wastewater Division issued Series 2012A bonds to retire Series 2004A bonds. During fiscal year 2013, KUB's Wastewater Division issued Series 2012B bonds to fund wastewater system capital improvements. KUB's Wastewater Division also issued Series 2013A bonds to retire a portion of outstanding Series 2005A bonds. During fiscal year 2015, KUB's Wastewater Division issued Series 2015A bonds to retire a portion of outstanding Series 2005A, Series 2007, and Series 2008 bonds. KUB's Wastewater Division also issued Series 2014A and Series 2015B bonds to fund wastewater system capital improvements. In prior years, certain revenue bonds were defeased by placing the proceeds of new bonds in an irrevocable trust to provide for all future debt service payments on the old bonds. Accordingly, the liability for the defeased bonds, $90.7 million at June 30, 2016, and the trust account assets are not included in the financial statements.

Other liabilities consist of the following:

| | **Balance June 30, 2015** | **Increase** | **Decrease** | **Balance June 30, 2016** |
|---|---|---|---|---|
| TVA conservation program | $ 10,336,682 | $ 1,174,926 | $ (3,098,755) | $ 8,412,853 |
| Accrued compensated absences | 8,616,844 | 16,943,202 | (16,498,820) | 9,061,226 |
| Customer advances for construction | 2,305,058 | 1,499,982 | (1,557,441) | 2,247,599 |
| Other | 478,797 | 411,126 | (586,250) | 303,673 |
| | $ 21,737,381 | $ 20,029,236 | $ (21,741,266) | $ 20,025,351 |

## 7. Lease Commitments

KUB has non-cancelable operating lease commitments for office equipment, property, and vehicles, summarized for the following fiscal years:

| | |
|---|---|
| 2017 | $ 256,776 |
| 2018 | 241,790 |
| 2019 | 141,959 |
| 2020 | 8,189 |
| Total operating minimum lease payments | $ 648,714 |

*(Space left intentionally blank)*

## 8. Capital Assets

Capital asset activity was as follows:

| | Balance June 30, 2015 | Increase | Decrease | Balance June 30, 2016 |
|---|---|---|---|---|
| **Production Plant (Intakes)** | $ 742,503 | $ - | $ - | $ 742,503 |
| **Pumping and Treatment Plant** | 272,156,011 | 27,948,957 | (2,131,084) | 297,973,884 |
| **Distribution and Collection Plant** | | | | |
| Mains and metering | 856,463,692 | 90,187,145 | (11,856,977) | 934,793,860 |
| Services and meters | 155,306,743 | 10,562,942 | (4,890,909) | 160,978,776 |
| Electric station equipment | 125,338,097 | 27,775,476 | (880,406) | 152,233,167 |
| Poles, towers and fixtures | 134,306,063 | 14,897,225 | (1,142,671) | 148,060,617 |
| Overhead conductors | 128,493,727 | 9,622,260 | (1,341,285) | 136,774,702 |
| Line transformers | 92,547,983 | 5,192,889 | (897,720) | 96,843,152 |
| Other accounts | 290,373,861 | 11,327,465 | (1,291,052) | 300,410,274 |
| **Total Distribution & Collection Plant** | $ 1,782,830,166 | $ 169,565,402 | $ (22,301,020) | $ 1,930,094,548 |
| **General Plant** | 154,807,001 | 16,109,904 | (2,304,757) | 168,612,148 |
| **Total Plant Assets** | $ 2,210,535,681 | $ 213,624,263 | $ (26,736,861) | $ 2,397,423,083 |
| Less Accumulated Depreciation | (753,200,620) | (70,652,307) | 26,328,506 | (797,524,421) |
| **Net Plant Assets** | $ 1,457,335,061 | $ 142,971,956 | $ (408,355) | $ 1,599,898,662 |
| Work In Progress | 193,812,149 | 164,049,004 | (214,654,664) | 143,206,489 |
| **Total Net Plant** | $ 1,651,147,210 | $ 307,020,960 | $ (215,063,019) | $ 1,743,105,151 |

| | Balance June 30, 2014 | Increase | Decrease | Balance June 30, 2015 |
|---|---|---|---|---|
| **Production Plant (Intakes)** | $ 742,503 | $ - | $ - | $ 742,503 |
| **Pumping and Treatment Plant** | 268,416,043 | 4,348,531 | (608,563) | 272,156,011 |
| **Distribution and Collection Plant** | | | | |
| Mains and metering | 827,485,705 | 32,368,532 | (3,390,545) | 856,463,692 |
| Services and meters | 150,206,800 | 7,460,515 | (2,360,572) | 155,306,743 |
| Electric station equipment | 120,964,151 | 6,556,645 | (2,182,699) | 125,338,097 |
| Poles, towers and fixtures | 124,328,627 | 12,739,496 | (2,762,060) | 134,306,063 |
| Overhead conductors | 120,168,100 | 9,163,450 | (837,823) | 128,493,727 |
| Line transformers | 90,103,801 | 3,298,379 | (854,197) | 92,547,983 |
| Other | 282,320,215 | 8,891,602 | (837,956) | 290,373,861 |
| **Total Distribution & Collection Plant** | $ 1,715,577,399 | $ 80,478,619 | $ (13,225,852) | $ 1,782,830,166 |
| **General Plant** | 146,172,851 | 10,527,779 | (1,893,629) | 154,807,001 |
| **Total Plant Assets** | $ 2,130,908,796 | $ 95,354,929 | $ (15,728,044) | $ 2,210,535,681 |
| Less Accumulated Depreciation | (706,864,663) | (63,051,875) | 16,715,918 | (753,200,620) |
| **Net Plant Assets** | $ 1,424,044,133 | $ 32,303,054 | $ 987,874 | $ 1,457,335,061 |
| Work In Progress | 124,829,743 | 164,644,375 | (95,661,969) | 193,812,149 |
| **Total Net Plant** | $ 1,548,873,876 | $ 196,947,429 | $ (94,674,095) | $ 1,651,147,210 |

## 9. Risk Management

KUB is exposed to various risks of loss related to active and retiree medical claims; injuries to workers; theft of, damage to, and destruction of assets; environmental damages; and natural disasters. Claims expenditures and liabilities are reported when it is probable that a loss has occurred and the amount of that loss can be reasonably estimated. These losses include an estimate of claims that have been incurred but not reported.

These liabilities are included in accrued expenses in the Statement of Net Position. The liability is KUB's best estimate based on available information. At June 30, 2016 and 2015, the amount of these liabilities was $1,758,352 and $1,699,525, respectively, resulting from the following changes:

| | **2016** | **2015** |
|---|---|---|
| Balance, beginning of year | $ 1,699,525 | $ 1,572,570 |
| Current year claims and changes in estimates | 14,043,332 | 14,222,337 |
| Claims payments | (13,984,505) | (14,095,382) |
| Balance, end of year | $ 1,758,352 | $ 1,699,525 |

## 10. Pension Plan

### Description of Plan

The Knoxville Utilities Board Pension Plan (the Plan) is a governmental plan as defined by the Employee Retirement Income Security Act of 1974 ("ERISA" or the "Act"), is not subject to any of the provisions of the Act, and was revised January 1, 2014 to include all prior approved amendments. The Plan is a single-employer contributory, defined benefit pension plan established by Knoxville Utilities Board ("KUB") Resolution No. 980 dated February 18, 1999, effective July 1, 1999, as authorized by the Charter of the City of Knoxville §1107(J). The Plan is designed to provide retirement, disability and death benefits to KUB employees. KUB administers the Plan through an Administrative Committee consisting of seven KUB employees that are appointed by KUB's President and CEO. Any amendments to the Plan involving costs not approved in the operating budget must be adopted by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Plan may be approved by KUB's President and CEO upon 60 days notification to the KUB Audit and Finance Committee. The Plan issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017.

Effective January 1, 2011, KUB closed the Plan such that persons employed or re-employed by KUB on or after January 1, 2011, are not eligible to participate, but that eligible employees hired prior to January 1, 2011, who have not separated from service, shall continue as Participants and to accrue benefits under the Plan.

Participants in the Plan consisted of the following as of December 31:

| | **2015** | **2014** |
|---|---|---|
| Inactive plan members: | | |
| Terminated vested participants | 39 | 40 |
| Retirees and beneficiaries | 628 | 627 |
| Active plan members | 692 | 725 |
| Total | 1,359 | 1,392 |

### Retirement Benefits

The Plan provides three benefit arrangements for KUB participants, retirees, and beneficiaries.

The Plan provides pension benefits through the Career Equity Program (“CEP”) for eligible employees hired on or after January 1, 1999, and for eligible former “City System Plan A” participants who elected CEP coverage as of July 1, 1999. The guaranteed pension benefit payable to a participant who has completed five or more years of service (or reached the normal retirement date, if earlier) upon termination of KUB employment shall be a lump sum equal to the participant’s average compensation times their benefit percentage, as defined in the Plan document, or an annuity may be chosen by the participant.

In addition, the Plan provided retirement benefits through “Plan A” for former City System Plan A participants who elected not to participate in the CEP. Plan A is a closed plan and is not available to KUB employees hired after July 1, 1999. Plan A provides for early retirement benefits with 25 years of service and normal retirement benefits at age 62 or later. Benefits provided to Plan A participants include several different forms of monthly annuity payments.

The Plan also provides retirement benefits through “Plan B” for former “City System Plan B” participants. Plan B is a closed plan providing benefits to participants not covered by Social Security. Benefits provided to Plan B participants include several different forms of monthly annuity payments available to participants.

Effective January 1, 2012, KUB began to provide for additional monthly supplements, which will not be subject to cost of living adjustments, to certain former employees and surviving dependents of former employees who are eligible for and have elected coverage under the KUB retiree medical plan and are eligible for Medicare. This was done to address the loss of drug coverage under the KUB retiree medical plan and to assist such individuals in obtaining prescription drug coverage under Medicare Part D.

### Contributions

Participation in Plan A requires employee contributions of 3% of the first $4,800 of annual earnings and 5% of annual earnings in excess of $4,800. Plan B participants may not make contributions to the Plan. KUB contributions are determined by the enrolled actuary of the Plan and equal the amount necessary to provide the benefits under the Plan determined by the application of accepted actuarial methods and assumptions. The method of funding shall be consistent with Plan objectives.

### Plan Funding

KUB maintains a Funding Policy for the Plan in accordance with Tennessee State Law. The primary goal of the Policy is to document the method KUB has adopted to provide assurance that future KUB and employee contributions and current Plan assets will be sufficient to fund all benefits expected to be paid to current active, inactive and retired Plan participants and their beneficiaries. Per the Funding Policy, KUB fully funds its annual Actuarially Determined Contribution.

### Investments

The Plan’s investments are held by State Street Bank and Trust Company (the “Trustee”). The Plan's policy in regard to the allocation of invested assets is established by the Investment Committee and approved by the KUB Board of Commissioners and may only be amended by the KUB Board of Commissioners. It is the policy of the Investment Committee to pursue an investment strategy that reduces risk through the prudent diversification of the portfolio across a broad selection of distinct asset classes. The following was the Plan's adopted asset allocation policy as of December 31, 2015:

| Asset Class | Target Allocation |
|---|---|
| Domestic equity – large cap | 20% - 50% |
| Domestic equity – mid cap | 0% - 15% |
| Domestic equity – small cap | 0% - 15% |
| Domestic equity - convertible securities | 0% - 10% |
| Non-U.S. equity | 0% - 20% |
| Real estate equity | 0% - 10% |
| Fixed income – aggregate bonds | 5% - 25% |
| Fixed income – long-term bonds | 10% - 25% |
| Cash and deposits | 0% - 5% |

Contributions of $5,669,380 and $6,314,399 for 2014 and 2013, respectively, were made during KUB's fiscal years ending June 30, 2016 and 2015, respectively. The contribution was determined as part of the January 1, 2014 valuation using the Individual Entry Age Normal funding method. The objective under this method is to fund each participant's benefits under the Plan as payments which are level as a percentage of salary, starting on the original participation date (employment date) and continuing until the assumed retirement, termination, disability or death. The actuarial valuation for the Plan year ending December 31, 2015 resulted in an actuarially determined contribution of $4,816,913 for the fiscal year ending June 30, 2017, based on the Plan's current funding policy.

Subsequent to June 30, 2016, the actuarial valuation for the Plan year ending December 31, 2016 was completed. The actuarial valuation resulted in an actuarially determined contribution of $3,756,283 for the fiscal year ending June 30, 2018, based on the Plan's current funding policy. For the Plan year ending December 31, 2016, the Plan's actuarial funded ratio was 103.04 percent.

The actuarial valuations for the Plan years ending December 31, 2015 and 2016, which determine the actuarially determined contribution for future fiscal years ending June 30, 2017 and 2018, have not been audited.

## Implementation of GASB 68

In fiscal year 2015, KUB adopted GASB Statement No. 68, *Accounting and Financial Reporting for Pensions – an amendment of GASB Statement No. 27*("GASB 68"), which requires measurement of the net pension liability as total pension liability less the amount of the Plan's fiduciary net position. The amounts reported as of June 30 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2016 and 2015 will be based on the December 31, 2015 and 2014 measurement date, respectively.

GASB 68 requires certain disclosures related to the net pension liability of the Plan as disclosed below:

| | 2015 | 2014 |
|---|---|---|
| Total pension liability | $ 204,502,350 | $ 202,773,764 |
| Plan fiduciary net position | 199,462,190 | (208,795,394) |
| Plan's net pension liability (asset) | $ 5,040,160 | $ (6,021,630) |
| Plan fiduciary net position as a percentage of the total pension liability | 97.54% | 102.97% |

Changes in Net Pension Liability are as follows:

| | Total Pension Liability (a) | Increase (Decrease) Plan Fiduciary Net Position (b) | Net Pension Liability (a) - (b) |
|---|---|---|---|
| Balances at December 31, 2014 | $ 202,773,764 | $ 208,795,394 | $ (6,021,630) |
| Changes for the year: | | | |
| Service cost | 4,157,062 | - | 4,157,062 |
| Interest | 14,812,784 | - | 14,812,784 |
| Differences between Expected and Actual Experience | (1,890,334) | - | (1,890,334) |
| Changes of Assumptions | - | - | - |
| Contributions - employer | - | 5,991,887 | (5,991,887) |
| Contributions - rollovers | - | 482,060 | (482,060) |
| Contributions - member | - | 5,486 | (5,486) |
| Net investment income | - | (64,551) | 64,551 |
| Benefit payments | (15,350,926) | (15,350,926) | - |
| Administrative expense | - | (397,160) | 397,160 |
| Net changes | 1,728,586 | (9,333,204) | 11,061,790 |
| Balances at December 31, 2015 | $ 204,502,350 | $ 199,462,190 | $ 5,040,160 |

*Actuarial Assumptions*
The total pension liability was determined by an actuarial valuation as of December 31, 2015 and 2014, using the following actuarial assumptions, applied to all periods included in the measurement:

| | |
|---|---|
| Actuarial cost method: | Individual entry age |
| Asset valuation method: | 5-year smoothed market |
| Amortization method: | Level dollar closed period with 28 years remaining as of January 1, 2013 and 27 years remaining as of January 1, 2014 |
| Discount rate: | 8% at January 1, 2013 and 7.5% at January 1, 2014 |
| Salary increases: | From 2.58% to 7.92% for January 1, 2013 and from 2.80% to 5.15% for January 1, 2014, based on years of service |
| Mortality: | Sex distinct RP-2000 Combined Mortality projected to 2018 using Scale AA for the January 1, 2013 valuation. Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA for the January 1, 2014 valuation |
| Inflation | 2.8 percent |

The actuarial assumptions used in the December 31, 2015 valuation were based on the results of an actuarial experience study for the period January 1, 2009 through December 31, 2013.

The long-term expected rate of return on Plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the Plan's target asset allocation as of December 31, 2015 and 2014 are summarized in the following table. The real rate of return reported for fixed income is for aggregate fixed income. The Plan has both aggregate and long duration fixed income.

| | Long Term Expected Real Rate of Return | |
|---|---|---|
| **Asset Class** | **2015** | **2014** |
| Domestic equity | 7.2% | 6.0% |
| Non-U.S. equity | 7.4% | 7.0% |
| Real estate equity | 6.5% | 5.7% |
| Fixed income | 3.7% | 1.8% |
| Cash and deposits | 2.6% | 0.5% |

*Discount rate*

The discount rate used to measure the total pension liability was 7.5 percent as of January 1, 2015 and 2014. The projection of cash flows used to determine the discount rate assumed that participant contributions will be made at the current contribution rate and that KUB contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

*Sensitivity of the net pension liability to changes in the discount rate*

The following presents the net pension liability of the Plan as of December 31, 2015, calculated using the discount rate of 7.5 percent, as well as what the Plan’s net pension liability would be if it were calculated using a discount rate that is one percent lower (6.5 percent) or one percent higher (8.5 percent) than the current rate:

| | **1% Decrease (6.5%)** | **Current Discount Rate (7.5%)** | **1% Increase (8.5%)** |
|---|---|---|---|
| Plan's net pension liability | $ 17,128,897 | $ 5,040,160 | $ (5,963,331) |

## Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the year ended June 30, 2015, KUB recognized pension expense of $2,749,905.

The impact of experience gains or losses and assumption changes on the Total Pension Liability are recognized in expense over the average expected remaining service life of all active and inactive members. As of the measurement date, this recognition period was 3.72 years. However, there were no experience gains or losses, and there were no assumption changes during the measurement year.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment gain of $7,972,887. $1,594,577 of that gain was recognized in the current year and an identical amount will be recognized in each of the next four years, resulting in a deferred inflow of resources of $6,378,310.

The table below summarizes the current balances of deferred outflows and deferred inflows of resources along with the net recognition over the next five years. In addition, KUB recorded a deferred outflow of resources of $3,157,199 at June 30, 2015 for employer contributions made between December 31, 2014 and June 30, 2015.

| | Deferred Outflows of Resources | Deferred Inflows of Resources |
|---|---|---|
| Differences between expected and actual experience | $ - | $ - |
| Changes in assumptions | - | - |
| Net difference between projected and actual earnings on pension plan investments | - | 6,378,310 |
| Contributions subsequent to measurement date | 3,157,199 | - |
| Total | $ 3,157,199 | $ 6,378,310 |

For the year ended June 30, 2016, KUB recognized pension expense of $4,665,035.

The impact of experience gains or losses and assumption changes on the Total Pension Liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2014, this average was 5.00 years. During the measurement year, there were no assumption or benefit changes. There was an experience gain of $1,890,334 with $378,067 of that recognized in the current year and in each of the next four years.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment loss of $15,382,915. $3,076,583 of that loss was recognized in the current year and an identical amount will be recognized in each of the next four years. Unrecognized investment gains from prior periods were $6,378,310 of which $1,594,577 was recognized as a reduction in pension expense in the current year.

Experience gains this year created a deferred inflow of resources of $1,512,267. The combination of unrecognized investment losses this year along with unrecognized net investment gains from prior periods results in a deferred outflow of resources as of December 31, 2015 of $7,522,599. The table below summarizes the current balances of deferred outflows and deferred inflows of resources along with the net recognition over future years. In addition, KUB recorded a deferred outflow of resources of $2,834,692 at June 30, 2016 for employer contributions made between December 31, 2015 and June 30, 2016.

| | Deferred Outflows of Resources | Deferred Inflows of Resources |
|---|---|---|
| Differences between expected and actual experience | $ - | $ 1,512,267 |
| Changes in assumptions | - | - |
| Net difference between projected and actual earnings on pension plan investments | 7,522,599 | - |
| Contributions subsequent to measurement date | 2,834,692 | - |
| Total | $ 10,357,291 | $ 1,512,267 |

Amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:

| Year ended June 30: | |
|---|---|
| 2017 | $ 3,938,630 |
| 2018 | 1,103,939 |
| 2019 | 1,103,938 |
| 2020 | 2,698,517 |
| Thereafter | - |

## 11. Defined Contribution Plan

The KUB Asset Accumulation 401(k) Plan (the “401(k) Plan”) is a defined contribution 401(k) employee retirement savings plan covering eligible KUB employees established by the KUB Board of Commissioners in accordance with the Charter of the City of Knoxville, Tennessee. The 401(k) Plan’s assets are held in trust under an agreement between KUB and Fidelity Management Trust Company. Employees hired prior to January 1, 2011 may participate and receive a matching contribution of 50 percent of their own contribution up to a maximum match of 3 percent. Employees hired on or after January 1, 2011 have an enhanced 401(k) due to the closure of the Defined Benefit Pension Plan. They may participate and receive a matching contribution of 50 percent of their own contribution up to a maximum match of 3 percent. They also receive a nonelective KUB contribution of from 3 percent to 6 percent, depending on years of service, whether they contribute or not.

Matching contributions were previously remitted to the KUB Pension Plan (a separate defined benefit plan) in the name of the participant for employees hired prior to January 1, 2011. As of December 9, 2015, these Pension match assets moved from the KUB Pension Plan to the 401(k) Plan. Effective December 9, 2015, all matching contributions are remitted to the 401(k) Plan. The match and nonelective contributions for employees hired on or after January 1, 2011 are paid directly by KUB. KUB funded 401(k) matching contributions and nonelective contributions of $1,739,057 and $1,593,350, respectively, for the years ended June 30, 2016 and 2015.

## 12. Other Post-Employment Benefits (OPEB)

The Governmental Accounting Standards Board (GASB) established standards for the measurement, recognition, and reporting of other post-employment benefits (OPEB). OPEB includes post-employment benefits other than pension, which, for KUB, is presently limited to post-employment health care. GASB Statement No. 45 (Statement No. 45) requires the recognition of the accrued OPEB liability for the respective year, plus the disclosure of the total unfunded liability.

KUB currently provides post-employment health care benefits to 585 former employees and 593 covered dependents. The cost of coverage is shared with retirees and beneficiaries. KUB recognizes its share of the cost of post-employment health care benefits as an expense as claims are paid.

KUB amended its Group Health Plan in 1999, eliminating post-employment health care benefits for all employees hired on or after July 1, 1999. As of June 30, 2016, 356 active employees were eligible for individual and dependent coverage at separation. To qualify, the employee must meet the Rule of 80 (age plus years of service) with a minimum of 20 years of service, and be enrolled in medical coverage on their last day.

In May 2006, the State of Tennessee adopted Tennessee Code Annotated, Title 8, Chapter 50, Part 12 authorizing governmental entities to establish Trusts for the purpose of pre-funding their respective OPEB liabilities.

Although Statement No. 45 does not require pre-funding of the liability, KUB has determined that it is in the long-term economic interest of KUB and its ratepayers to establish a Trust to pre-fund KUB's OPEB liability.

Knoxville Utilities Board Other Post-Employment Benefits Trust (the "Trust") is a single-employer Other Post-Employment Benefits Plan established by the Knoxville Utilities Board (KUB) Board of Commissioners through Resolution No. 1168, as amended, dated October 18, 2007. The applicable documentation was submitted to the State Funding Board and, in December 2007, the State Funding Board approved the Trust. The Trust was also approved by the Internal Revenue Service in June 2008. KUB administers the Trust through a Board of Trustees consisting of seven KUB employees that are appointed by KUB's President and CEO. Any amendments to the Trust involving costs not approved in the operating budget must be approved by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Trust may be approved by KUB's President and CEO upon 60 days notification to the KUB Audit and Finance Committee. The investment of all deposits to the Trust is governed by an Investment Policy, which was adopted by the KUB Board and approved by the State Funding Board.

KUB makes annual contributions to the Trust at an actuarially determined rate. Based on the date of retirement, certain retired plan members are required to contribute specified amounts monthly to maintain health insurance. Those who retired prior to July 1983 have no required monthly premiums for themselves or dependents. The retirees, or their surviving dependents, who retired between August 1983 and January 1998 are required to pay $250 per month for pre-Medicare family health insurance. For individuals who retired after January 1998, the required monthly premium for pre-Medicare health insurance is $250 for single coverage and $500 for family coverage. There is currently no premium for Medicare eligible retirees or dependents.

An actuarial valuation of KUB's Postretirement Benefit Plan was performed for the Trust as of January 1, 2014 for fiscal year June 30, 2015 and January 1, 2015 for fiscal year June 30, 2016. The following table presents the OPEB cost for the year, the amount contributed to the Trust, and changes in the net OPEB obligation for fiscal year ending June 30:

| | 2016 | 2015 |
|---|---|---|
| **a)** Net OPEB Obligation/(Asset) at beginning of fiscal year | $ (174,410) | $ (177,322) |
| **b)** Annual Required Contribution (ARC) | 953,221 | 3,497,372 |
| **c)** Interest on Net OPEB Obligation/(Asset) | (13,081) | (14,186) |
| **d)** Adjustment to ARC | (16,427) | (17,098) |
| **e)** Annual OPEB Cost **(b+c-d)** | 956,567 | 3,500,284 |
| **f)** Employer Contributions | 953,221 | 3,497,372 |
| **g)** Net OPEB Obligation/(Asset) at end of fiscal year **(a+e-f)** | $ (171,064) | $ (174,410) |

KUB's annual OPEB cost, the percentage of annual OPEB cost contributed to the Trust, and the net OPEB obligation for fiscal year 2016 and the two preceding years were as follows:

**Schedule of Employer Contributions**

| Actuarial Valuation Date | Employer Fiscal Year | Annual Required Contribution | Fiscal Year Actual Contribution | Percentage Contributed | Net OPEB Obligation |
|---|---|---|---|---|---|
| 1/1/2012 | 6/30/2014 | 3,327,412 | 4,057,091 | 121.93% | (177,322) |
| 1/1/2013 | 6/30/2015 | 3,497,372 | 3,497,372 | 100.00% | (174,410) |
| 1/1/2014 | 6/30/2016 | 953,221 | 953,221 | 100.00% | (171,064) |

Total contributions to the OPEB Trust for the fiscal year ended June 30, 2016 were $953,221. The contribution to the Trust was consistent with the annual required contribution, as determined by the Postretirement Benefit Plan's actuarial valuation as of January 1, 2014, which was $953,221. As of June 30, 2016, the employer's OPEB obligation has been exceeded by $171,064.

The annual required contribution for the fiscal year ending June 30, 2017, as determined by the Plan's actuarial valuation as of January 1, 2015 is $620,015.

The actuarial valuation for the Plan as of January 1, 2016 has been completed. The valuation determined that the Plan's actuarial accrued liability was $45,118,624. The actuarial value of the Plan's assets was $48,510,796. As a result, the Plan's unfunded actuarial accrued liability was ($3,392,172). The Plan's actuarial funded ratio was 108 percent. Due to the future implementation of GASB 75, the contributions made for fiscal year ending June 30, 2018 will be the actuarially determined contribution instead of the annual required contribution and the actuarial cost method used to determine the contributions will change from the projected unit credit cost method to the entry age normal cost method. The actuarially determined contribution for fiscal year ending June 30, 2018 will be zero. See Required Supplementary Information for OPEB Schedule of Funding Progress.

The actuarial valuations dated January 1, 2015 and 2016, which determine the annual required contribution and actuarially determined contribution for future fiscal years ending June 30, 2017 and 2018, have not been audited.

Actuarial valuations involve estimates of the value of reported amounts and assumptions about the probability of events far into the future, and actuarially determined amounts are subject to continual revision as actual results are compared to past expectations and new estimates are made about the future.

The required schedule of funding progress immediately following the notes to the financial statements presents multi-year trend information about whether the actuarial value of Trust assets is increasing or decreasing over time relative to the actuarial accrued liability for benefits.

Calculations are based on the benefits provided under the terms of the substantive plan in effect at the time of each valuation and on the pattern of sharing of costs between the employer and plan members to that point.

Actuarial calculations reflect a long-term perspective. Consistent with that perspective, actuarial methods and assumptions used include techniques that are designed to reduce short-term volatility in actuarial accrued liabilities and the actuarial value of assets.

Identification of actuarial methods and significant assumptions used to determine the annual required contribution for the fiscal year ending June 30, 2016:

| | |
|---|---|
| I. Actuarial cost method | Projected unit credit cost method |
| II. Actuarial value of assets | Smoothed market value with phase-in method using a smoothing period of 5 years |
| III. Investment return | 7.5%, based on the expected portfolio return |
| Projected salary increases | N/A |
| Healthcare cost Trend: | |
| Medicare | 2014 - 2030+, ranging from 4.5% to 7.45% |
| Non-Medicare | 2014 - 2030+, ranging from 4.5% to 8.75% |
| IV. Amortization method | Level dollar closed (30-year) |
| Remaining amortization period | 22 years |

The Trust issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017.

## 13. Related Party Transactions

KUB, in the normal course of operations, is involved in transactions with the City of Knoxville. Such transactions for the years ended June 30, 2016 and 2015 are summarized as follows:

| | **2016** | **2015** |
|---|---|---|
| City of Knoxville | | |
| Amounts billed by KUB for utilities and related services | $ 14,383,228 | $ 14,250,324 |
| Payments by KUB in lieu of property tax | 17,428,232 | 16,535,897 |
| Payments by KUB for services provided | 2,183,335 | 1,804,675 |

With respect to these transactions, accounts receivable from the City of Knoxville included in the balance sheet at year end were:

| | **2016** | **2015** |
|---|---|---|
| Accounts receivable | $ 902,254 | $ 869,815 |

## 14. Natural Gas Supply Contract Commitments

For fiscal year 2016, the Gas Division hedged 67 percent of its total gas purchases via gas supply contracts. As of June 30, 2016, the Gas Division had hedged the price on approximately 20 percent of its anticipated gas purchases for fiscal year 2017.

KUB contracts separately for the purchase, transportation and storage of natural gas. Purchase commitments for the next five years are as follows:

Firm obligations related to purchased gas – demand

| | **2017** | **2018** | **2019** | **2020** | **2021** |
|---|---|---|---|---|---|
| Transportation | | | | | |
| Tennessee Gas Pipeline | $ 3,269,844 | $ 3,269,844 | $ 3,269,844 | $ 1,089,948 | $ - |
| East Tennessee Natural Gas | 10,066,388 | 10,066,388 | 10,066,388 | 2,748,496 | - |
| Storage | | | | | |
| Tennessee Gas Pipeline | 1,787,976 | 1,787,976 | 1,787,976 | 595,992 | - |
| East Tennessee Natural Gas | 757,460 | 757,460 | 757,460 | - | - |
| Saltville Natural Gas | 1,870,560 | 1,548,030 | 580,440 | 435,330 | - |
| Demand Total | $ 17,752,228 | $ 17,429,698 | $ 16,462,108 | $ 4,869,766 | $ - |

Firm obligations related to purchased gas – commodity

| | **2017** | **2018** | **2019** | **2020** | **2021** |
|---|---|---|---|---|---|
| Baseload | | | | | |
| Conoco | $ 5,719,700 | $ - | $ - | $ - | $ - |
| Shell Energy | 739,680 | - | - | - | - |
| BP | 6,104,693 | 6,181,363 | 5,874,650 | 1,801,950 | - |
| CNX | 1,709,713 | 1,648,048 | - | - | - |
| Commodity Total | $ 14,273,786 | $ 7,829,411 | $ 5,874,650 | $ 1,801,950 | $ - |

The total commodity values presented here are based upon firm supply obligations with each individual natural gas supplier. The firm obligations value for Conoco, Shell Energy, and BP are based upon firm supply obligations and locked prices with those suppliers. The firm obligations value for the CNX contract is based upon firm supply obligations and the applicable four month NYMEX strip prices on June 30, 2016.

## 15. Other Commitments and Contingencies

In the normal course of business, there are various lawsuits pending against KUB. Management has reviewed these lawsuits with counsel, who is vigorously defending KUB's position and is of the opinion that the ultimate disposition of these matters will not have a material adverse effect on KUB's financial position, results of operations or cash flows.

In February 2005, a Consent Decree was entered into federal court regarding the operation of KUB’s wastewater system. Under the terms of the Consent Decree, the remediation of identified sanitary sewer overflows (SSOs) on KUB’s wastewater system had to be completed by June 30, 2016. KUB completed all the requirements of the Consent Decree for the collection system two years in advance of the deadline.

The Consent Decree also required KUB to perform an evaluation of the wet weather performance and capacity of its wastewater treatment plants. In July 2007, KUB submitted a Composite Correction Plan (CCP) for its wastewater treatment plants to EPA for review. The development and filing of the CCP was a requirement of the federal order of February 2005. The CCP includes recommended improvements to KUB's Kuwahee and Fourth Creek treatment plants to address wet weather capacity issues noted in prior assessments. The EPA approved the CCP in January 2009 including a recommended schedule of plant improvements that extends beyond the expiration date of the original Consent Decree. An amendment to the Consent Decree incorporating and establishing this schedule was agreed to by all parties and was entered on June 23, 2009. The purpose of the Amendment is to allow KUB to complete a portion of work outlined in the CCP after the Consent Decree deadline of June 30, 2016. The CCP provides for a biologically enhanced high-rate clarification (the BEHRC) secondary treatment system to be installed at the Fourth Creek treatment plant by June 30, 2018 and at the Kuwahee treatment plant by June 30, 2021. The total cost of such improvements is estimated to be approximately $120 million.

KUB's funding plan for the Consent Decree includes long-term bonds and a series of rate increases phased in over the term of the order. Bond proceeds fund all types of wastewater capital projects, the majority of which are related to the Consent Decree. As of June 30, 2016, the Wastewater Division had issued $485 million in bonds to fund system capital improvements since the inception of the Consent Decree. The Board previously approved two 50 percent rate increases, which went into effect in April 2005 and January 2007. The Board also approved an 8 percent rate increase, which was effective in September 2008, two 12 percent rate increases, which were effective in April 2011 and October 2012, and three 6 percent rate increases effective October 2014, October 2015 and October 2016. KUB anticipates additional bond issues and rate increases over the next decade to help fund wastewater capital improvements.

KUB successfully completed the first cycle of Maintenance Operation Management (MOM) requirements one year before the deadline by inspecting 99.5% of manholes and gravity mains, smoke testing 99.9% of gravity mains, performing required inspections of pump stations and the related force mains, and completing all Corrective Action Plan/Engineering Report (CAP/ER) projects. KUB initiated the second MOM cycle that continues to focus on the prevention of SSOs. As part of the Century II initiative, formally known as the PACE10 program, KUB has installed storage tanks providing 34 million gallons of wastewater storage to control wet weather overflows and rehabilitated or replaced approximately 334.9 miles of collection system pipe. KUB also continues to maintain a proactive operations and maintenance plan for the wastewater collection system including inspection, grease control, and private lateral enforcement. The result of the PACE10/Century II initiative has been an 82 percent reduction in SSOs.

As of June 30, 2016, the Wastewater Division had completed its twelfth full year under the Consent Decree, spending $529.5 million on capital investments to meet Consent Decree requirements. During fiscal year 2016, the Wastewater Division incurred $37.3 million in total expenditures related to Consent Decree requirements, including $3.3 million for operating costs and $34 million in capital improvements which included the rehabilitation or replacement of 28 miles of wastewater main. During the fiscal year, $26.5 million was spent on sewer mini-basin rehabilitation and replacement. Trunk line rehabilitation and replacement accounted for $2 million of capital expenditures, while pump station improvements accounted for $4.6 million.

## 16. Segment Information

The following financial information represents identifiable activities for which the revenue bonds and other revenue backed debt are outstanding for the respective Divisions:

### Condensed Statement of Net Position

| | 2016 | | | |
|---|---|---|---|---|
| | **Electric** | **Gas** | **Water** | **Wastewater** |
| Assets and Deferred Outflows of Resources | | | | |
| Current assets | $ 105,152,996 | $ 28,023,783 | $ 20,524,335 | $ 44,214,264 |
| Restricted assets | 14,749,362 | 3,149,495 | 3,356,910 | 7,701,096 |
| Net capital assets | 511,260,136 | 263,531,420 | 281,257,624 | 687,055,971 |
| Other assets | 37,107,982 | 16,503,157 | 10,007,552 | 28,159,669 |
| Total assets | $ 668,270,476 | $ 311,207,855 | $ 315,146,421 | $ 767,131,000 |
| Deferred outflows of resources | 8,543,965 | 3,004,672 | 3,273,002 | 19,413,063 |
| Total assets and deferred outflows of resources | $ 676,814,441 | $ 314,212,527 | $ 318,419,423 | $ 786,544,063 |
| Liabilities and Deferred Inflows of Resources | | | | |
| Current liabilities | $ 87,318,966 | $ 16,464,233 | $ 10,801,558 | $ 19,868,558 |
| Other liabilities | 16,598,461 | 3,410,619 | 2,295,413 | 2,761,018 |
| Long-term debt | 237,603,282 | 100,163,853 | 142,132,182 | 492,466,224 |
| Total liabilities | $ 341,520,709 | $ 120,038,705 | $ 155,229,153 | $ 515,095,800 |
| Deferred inflows of resources | 725,888 | 257,085 | 196,595 | 332,699 |
| Total liabilities and deferred inflows of resources | $ 342,246,597 | $ 120,295,790 | $ 155,425,748 | $ 515,428,499 |
| Net position | | | | |
| Net investment in capital assets | $ 268,462,479 | $ 159,696,458 | $ 138,069,365 | $ 205,783,783 |
| Restricted | 10,120,406 | 1,820,408 | 1,522,884 | 2,737,312 |
| Unrestricted | 55,984,959 | 32,399,871 | 23,401,426 | 62,594,469 |
| Total net position | $ 334,567,844 | $ 193,916,737 | $ 162,993,675 | $ 271,115,564 |

### Condensed Statement of Net Position

| | 2015 | | | |
|---|---|---|---|---|
| | **Electric** | **Gas** | **Water** | **Wastewater** |
| Assets and Deferred Outflows of Resources | | | | |
| Current assets | $ 113,395,720 | $ 45,488,784 | $ 27,984,680 | $ 42,523,912 |
| Restricted assets | 33,517,297 | 3,119,403 | 12,903,096 | 22,712,158 |
| Net capital assets | 480,797,659 | 248,032,207 | 258,138,759 | 664,178,585 |
| Other assets | 43,446,286 | 14,911,384 | 14,195,562 | 38,863,004 |
| Total assets | $ 671,156,962 | $ 311,551,778 | $ 313,222,097 | $ 768,277,659 |
| Deferred outflows of resources | 5,410,730 | 1,925,346 | 2,459,219 | 18,592,703 |
| Total assets and deferred outflows of resources | $ 676,567,692 | $ 313,477,124 | $ 315,681,316 | $ 786,870,362 |
| Liabilities and Deferred Inflows of Resources | | | | |
| Current liabilities | $ 85,227,269 | $ 16,716,438 | $ 9,361,281 | $ 17,928,132 |
| Other liabilities | 16,261,143 | 3,352,842 | 1,634,788 | 2,052,891 |
| Long-term debt | 248,330,326 | 105,919,404 | 146,856,890 | 503,955,190 |
| Total liabilities | $ 349,818,738 | $ 125,988,684 | $ 157,852,959 | $ 523,936,213 |
| Deferred inflows of resources | 3,061,589 | 1,148,096 | 829,180 | 1,339,445 |
| Total liabilities and deferred inflows of resources | $ 352,880,327 | $ 127,136,780 | $ 158,682,139 | $ 525,275,658 |
| Net position | | | | |
| Net investment in capital assets | $ 228,768,196 | $ 138,973,111 | $ 110,579,425 | $ 172,143,725 |
| Restricted | 9,091,195 | 1,801,334 | 1,375,362 | 2,623,864 |
| Unrestricted | 85,827,974 | 45,565,899 | 45,044,390 | 86,827,115 |
| Total net position | $ 323,687,365 | $ 186,340,344 | $ 156,999,177 | $ 261,594,704 |

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## Condensed Statement of Revenues, Expenses and Changes in Net Position

| | 2016 | | | |
|---|---|---|---|---|
| | **Electric** | **Gas** | **Water** | **Wastewater** |
| Operating revenues | $ 521,369,202 | $ 88,441,144 | $ 47,453,401 | $ 83,645,509 |
| Operating expenses | 472,905,855 | 65,567,807 | 27,052,009 | 36,048,577 |
| Provision for depreciation | 29,490,370 | 11,481,432 | 9,055,221 | 18,342,674 |
| Total operating expenses | 502,396,225 | 77,049,239 | 36,107,230 | 54,391,251 |
| Operating income | 18,972,977 | 11,391,905 | 11,346,171 | 29,254,258 |
| Non-operating expense | (8,270,894) | (3,815,512) | (5,652,869) | (20,424,080) |
| Change in net position before capital contributions | 10,702,083 | 7,576,393 | 5,693,302 | 8,830,178 |
| Capital contributions | 178,396 | - | 301,196 | 690,682 |
| Change in net position | 10,880,479 | 7,576,393 | 5,994,498 | 9,520,860 |
| Net position | | | | |
| Beginning of year | 323,687,365 | 186,340,344 | 156,999,177 | 261,594,704 |
| End of year | $ 334,567,844 | $ 193,916,737 | $ 162,993,675 | $ 271,115,564 |

## Condensed Statement of Revenues, Expenses and Changes in Net Position

| | 2015 | | | |
|---|---|---|---|---|
| | **Electric** | **Gas** | **Water** | **Wastewater** |
| Operating revenues | $ 533,205,845 | $ 114,168,784 | $ 44,173,190 | $ 79,206,028 |
| Operating expenses | 489,617,790 | 86,845,366 | 26,315,917 | 35,189,854 |
| Provision for depreciation | 25,887,777 | 10,894,826 | 7,794,763 | 17,130,721 |
| Total operating expenses | 515,505,567 | 97,740,192 | 34,110,680 | 52,320,575 |
| Operating income | 17,700,278 | 16,428,592 | 10,062,510 | 26,885,453 |
| Non-operating expense | (6,642,081) | (4,272,667) | (5,309,339) | (19,486,890) |
| Change in net position before capital contributions | 11,058,197 | 12,155,925 | 4,753,171 | 7,398,563 |
| Capital contributions | 11,611 | 4,353 | 232,696 | 357,246 |
| Change in net position | 11,069,808 | 12,160,278 | 4,985,867 | 7,755,809 |
| Net position | | | | |
| Beginning of year, as previously reported | 312,984,264 | 174,317,582 | 152,112,627 | 253,999,330 |
| Change in method of accounting for pension | (366,707) | (137,516) | (99,317) | (160,435) |
| Net position, beginning of year, as restated | 312,617,557 | 174,180,066 | 152,013,310 | 253,838,895 |
| End of year | $ 323,687,365 | $ 186,340,344 | $ 156,999,177 | $ 261,594,704 |

### Condensed Statement of Cash Flows

| | 2016 | | | |
|---|---|---|---|---|
| | **Electric** | **Gas** | **Water** | **Wastewater** |
| Net cash provided by operating activities | $ 50,904,883 | $ 22,442,923 | $ 20,792,761 | $ 48,518,765 |
| Net cash used in capital and related financing activities | (59,358,278) | (36,629,153) | (32,331,239) | (56,922,694) |
| Net cash provided by (used in) investing activities | (1,226,670) | (1,040,540) | (373,199) | (723,696) |
| Net increase (decrease) in cash and cash equivalents | (9,680,065) | (15,226,770) | (11,911,677) | (9,127,625) |
| Cash and cash equivalents, beginning of year | 44,471,851 | 26,262,919 | 21,304,494 | 32,853,270 |
| Cash and cash equivalents, end of year | $ 34,791,786 | $ 11,036,149 | $ 9,392,817 | $ 23,725,645 |

### Condensed Statement of Cash Flows

| | 2015 | | | |
|---|---|---|---|---|
| | **Electric** | **Gas** | **Water** | **Wastewater** |
| Net cash provided by operating activities | $ 38,410,104 | $ 28,984,668 | $ 17,603,576 | $ 42,595,872 |
| Net cash used in capital and related financing activities | (22,524,068) | (46,023,953) | (17,392,294) | (22,961,641) |
| Net cash provided by (used in) investing activities | (2,886,436) | (712,007) | 5,914,751 | (2,194,880) |
| Net increase (decrease) in cash and cash equivalents | 12,999,600 | (17,751,292) | 6,126,033 | 17,439,351 |
| Cash and cash equivalents, beginning of year | 31,472,251 | 44,014,211 | 15,178,461 | 15,413,919 |
| Cash and cash equivalents, end of year | $ 44,471,851 | $ 26,262,919 | $ 21,304,494 | $ 32,853,270 |

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# Knoxville Utilities Board
## Required Supplementary Information - Schedule of Funding Progress
## June 30, 2016
## (Unaudited)

### Other Post-Employment Benefits (OPEB)

| | Valuation Date | Actuarial Value of Assets (a) | Actuarial Accrued Liability (AAL) (b) | Unfunded Actuarial Accrued Liability (UAAL) (b-a) | Funded Ratio (a)/(b) | Covered Payroll (c) | UAAL as a Percentage of Covered Payroll [(b)-(a)]/(c) |
|---|---|---|---|---|---|---|---|
| | January 1, 2008 | $ - | $ 108,329,141 | $ 108,329,141 | 0% | $ 31,234,509 | 346.8% |
| | January 1, 2009 | 14,593,487 | 100,726,738 | 86,133,251 | 14% | 31,846,091 | 270.5% |
| | January 1, 2010 | 21,275,643 | 58,475,364 | 37,199,721 | 36% | 30,069,028 | 123.7% |
| | January 1, 2011 | 40,749,815 | 64,289,254 | 23,539,439 | 63% | 28,878,791 | 81.5% |
| | January 1, 2012 | 37,907,357 | 61,603,466 | 23,696,109 | 62% | 28,269,123 | 83.8% |
| | January 1, 2013 | 38,571,803 | 63,341,531 | 24,769,728 | 61% | 27,566,340 | 89.9% |
| | January 1, 2014 | 43,409,955 | 46,889,808 | 3,479,853 | 93% | 26,724,154 | 13.0% |
| * | January 1, 2015 | 47,705,478 | 47,745,640 | 40,162 | 100% | 25,816,884 | 0.2% |
| * | January 1, 2016 | 48,510,796 | 45,118,624 | (3,392,172) | 108% | 25,243,127 | (13.4%) |

***** The actuarial valuations dated January 1, 2015 and 2016, which determine the annual required contribution for future fiscal years ending June 30, 2017 and 2018, have not been audited.

# Knoxville Utilities Board

## Required Supplementary Information - Schedule of Changes in Net Pension Liability and Related Ratios

## June 30, 2016

## (Unaudited)

| | Year ended December 31 | |
|---|---|---|
| | **2015** | **2014** |
| **Total pension liability** | | |
| Service cost | $ 4,157,062 | $ 4,092,808 |
| Interest | 14,812,784 | 14,698,657 |
| Differences between expected and actual experience | (1,890,334) | - |
| Benefit payments, including refunds of member contributions | (15,350,926) | (15,533,167) |
| **Net change in total pension liability** | 1,728,586 | 3,258,298 |
| **Total pension liability - beginning** | 202,773,764 | 199,515,466 |
| **Total pension liability - ending (a)** | $ 204,502,350 | $ 202,773,764 |
| **Plan fiduciary net position** | | |
| Contributions - employer | $ 5,991,887 | $ 5,908,541 |
| Contributions - participants | 487,546 | 475,854 |
| Net investment income | (95,430) | 22,292,369 |
| Other additions | 30,879 | 29,733 |
| Benefit payments, including refunds of member contributions | (15,274,926) | (15,405,167) |
| Administrative expense | (397,160) | (378,085) |
| Death benefits | (76,000) | (128,000) |
| **Net change in plan fiduciary net position**** | (9,333,204) | 12,795,245 |
| **Plan fiduciary net position - beginning**** | 208,795,394 | 196,000,149 |
| **Plan fiduciary net position - ending (b)**** | $ 199,462,190 | $ 208,795,394 |
| **Plan's net pension liability - ending (a) - (b)** | $ 5,040,160 | $ (6,021,630) |
| Plan fiduciary net position as a percentage of the total pension liability | 97.54% | 102.97% |
| Covered-employee payroll | $ 50,679,585 | $ 50,246,074 |
| Plan's net pension liability as a percentage of covered-employee payroll | 9.95% | (11.98%) |

**Notes to Schedule:**

* Information not reflected prior to 2014 due to changes in actuary methodologies required under GASB 67, which was implemented in 2014.

** Excludes amounts related to 401(k) matching contributions.

# Knoxville Utilities Board
## Required Supplementary Information - Schedule of Employer Pension Contributions
## June 30, 2016
## (Unaudited)

| | Year ended December 31<br>2015 | <br>2014 |
|---|---|---|
| Annual required contribution | $ 5,991,887 | $ 5,908,541 |
| Contribution in relation to the annual required contribution | 5,991,887 | 5,908,541 |
| Contribution deficiency | $ - | $ - |
| Covered-employee payroll | $ 50,679,585 | $ 50,246,074 |
| Contributions as a percentage of covered-employee payroll | 11.82% | 11.76% |

**Notes to Schedule:**

| | |
|---|---|
| Valuation Dates: | January 1, 2013 and January 1, 2014 |
| Timing: | Actuarially determined contributions for a plan year are based upon 50% of the amounts determined at the actuarial valuations for each of the two prior plan years. |

**Key methods and assumptions used to determine contribution rates:**

| | |
|---|---|
| Actuarial cost method: | Individual entry age |
| Asset valuation method: | 5-year smoothed market |
| Amortization method: | Level dollar closed period with 28 years remaining as of January 1, 2013 and 27 years remaining as of January 1, 2014. |
| Discount rate: | 8% at January 1, 2013 and 7.5% at January 1, 2014 |
| Salary increases: | From 2.58% to 7.92% for January 1, 2013 and from 2.8% to 5.15% for January 1, 2014, based on years of service |
| Mortality: | Sex distinct RP-2000 Combined Mortality projected to 2018 using Scale AA for the Janaury 1, 2013 valuation. Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA for the January 1, 2014 valuation. |
| Inflation: | 2.8 percent |

* Schedule of Employer Contribution information is not reflected prior to 2014 due to changes in actuary methodologies required under GASB 67, which was implemented 2014.

# Knoxville Utilities Board
## Supplemental Information –
## Schedule of Expenditures of Federal Awards and State Financial Assistance
## June 30, 2016 Schedule 1

KUB was awarded a grant from Tennessee Emergency Management Agency (as a flow through from FEMA) for reimbursement for costs related to storms in 2015. The schedule below shows the expenditures for the current fiscal year.

| Program Name | Federal/State Agency | CFDA Number | Contract Number | Expenditures |
|---|---|---|---|---|
| U.S. Department of Homeland Security | Tennessee Emergency Management | 97.036 | 34101-06616 | $ 1,325,524 |
| | | Total Program 97.036 | | $ 1,325,524 |
| | | **Total Federal Awards** | | $ 1,325,524 |

NOTE 1 - BASIS OF PRESENTATION

The Schedule of Expenditures of Federal Awards and State Financial Assistance includes the federal award related grant activity of Knoxville Utilities Board and is presented on the accrual basis of accounting. The information in this schedule is presented in accordance with the requirements of Title 2 U.S. Code of Federal Regulations Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards. Therefore, some amounts presented in this schedule may differ from amounts presented in, or used in the preparation of, the basic financial statements.

### Section I -- Summary of Auditors' Results

***Financial Statements***

| | |
|---|---|
| Type of auditors' report issued: | Unmodified |
| Internal control over financial reporting:<br>Material weakness(es) identified? | None reported |
| Significant deficiency(s) identified not considered to be material weaknesses? | None reported |
| Noncompliance material to financial statements: | None reported |

***Federal Awards***

| | | |
|---|---|---|
| Internal control over major programs:<br>Material weakness(es) identified? | None reported | |
| Significant deficiency(s) identified not considered to be material weaknesses? | None reported | |
| Type of auditors' report issued on compliance for major programs: | Unmodified | |
| Any audit findings disclosed that are required to be reported in accordance with Title 2 U.S. Code of Federal Regulations Part 200? | None reported | |
| Identification of major programs: | CFDA | Name of Program |
| | 97.036 | Tennessee Emergency Management |
| Dollar threshold used to distinguish between Type A and Type B programs: | $750,000 | |
| Auditee qualified as low-risk auditee? | No | |

### Section II -- Financial Statement Findings

None reported.

### Section III -- Federal Award Findings and Questioned Costs

None reported.

### Section IV – Summary Schedule of Prior Year Audit Findings

Not applicable as there were no prior year findings reported.

### Section V – Corrective Action Plan

Not applicable as there were no current year findings reported.

# Knoxville Utilities Board
## Supplemental Information - Schedule of Insurance in Force
## June 30, 2016
## (Unaudited) Schedule 3

### Crime
Covers losses resulting from employee dishonesty, robbery, burglary, and computer fraud. Limits of coverage - $5,000,000; $250,000 retention.

### Directors' and Officers' Liability Insurance
Covers KUB personnel appropriately authorized to make decisions on behalf of KUB (including but not limited to Commissioners, President and CEO, Senior Vice Presidents, Vice Presidents, and Directors) for wrongful acts. Limits of coverage - $20,000,000; $1,000,000 corporate deductible, $0 individual deductible.

### Employment Practices Liability
Coverage for costs related to actual or alleged employment practices violations for amounts exceeding specified amount ($500,000). Limits of coverage - $10,000,000.

### Fiduciary
Covers losses resulting from wrongful acts related to KUB's Pension, 401(k), and OPEB Trust funds. Limits of coverage - $10,000,000; $150,000 deductible.

### Pollution Legal Liability
New conditions coverage for losses exceeding specified amount per occurrence ($1,000,000). Limits of coverage - $20,000,000.

### Property Insurance
This coverage provides protection of KUB's property for fire, extended coverage, vandalism and malicious mischief, and coverage on boilers and machinery. Also included are flood and earthquake damage and mechanical failure. Limits of coverage - $250,000,000 per occurrence (subject to certain sublimits); $2,500,000 deductible per occurrence.

### Travel Accident
Covers losses related to employees' business travel. Limits of coverage - $1,500,000 aggregate.

### Excess Insurance for General Liability
As a government entity, KUB's liability is limited under the Tennessee Governmental Tort Liability Act (TCA §29-20-403). KUB is self-insured for up to the first $700,000 of any accident and has insurance of $1,000,000 above this retention.

### Excess Insurance for Workers' Compensation
Covers all losses exceeding specified amount per occurrence ($1,000,000). Limits of coverage - Statutory; stop loss coverage applies for aggregate losses over $5,000,000.

### Employee Health Plan Stop Loss Coverage
KUB's employee health plan is self-funded. KUB has purchased stop loss insurance, which covers KUB's exposure to annual expenses in excess of $400,000 per individual participant.

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# Report of Independent Auditors on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with *Government Auditing Standards*

Board of Commissioners
Knoxville Utilities Board
Knoxville, Tennessee

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the Knoxville Utilities Board (KUB), a component unit of the City of Knoxville, Tennessee, as of and for the year ended June 30, 2016, and the related notes to the financial statements, which collectively comprise KUB's basic financial statements, and have issued our report thereon dated October 27, 2016.

## Internal Control over Financial Reporting

In planning and performing our audit of the financial statements, we considered KUB's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of KUB's internal control. Accordingly, we do not express an opinion on the effectiveness of KUB's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of KUB's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

**Compliance and Other Matters**

As part of obtaining reasonable assurance about whether KUB's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

**Purpose of Report**

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of KUB's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering KUB's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Coulter & Justus, P.C.

Knoxville, Tennessee
October 27, 2016

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# Report of Independent Auditors on Compliance for Each Major Program and on Internal Control over Compliance Required by the Uniform Guidance

Board of Commissioners
Knoxville Utilities Board
Knoxville, Tennessee

## Report on Compliance for the Major Federal Program

We have audited the Knoxville Utilities Board's (KUB), a component unit of the City of Knoxville, Tennessee, compliance with the types of compliance requirements described in the OMB Compliance Supplement that could have a direct and material effect on KUB's major federal program for the year ended June 30, 2016. KUB's major federal program is identified in the summary of auditor's results section of the accompanying schedule of findings and questioned costs.

## Management's Responsibility

Management is responsible for compliance with federal statutes, regulations, and the terms and conditions of its federal awards applicable to its federal programs.

## Auditor's Responsibility

Our responsibility is to express an opinion on compliance for KUB's major federal program based on our audit of the types of compliance requirements referred to above. We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and the audit requirements of Title 2 U.S. *Code of Federal Regulations* Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Those standards and the Uniform Guidance require that we plan and perform the audit to obtain reasonable assurance about whether noncompliance with the types of compliance requirements referred to above that could have a direct and material effect on a major federal program occurred. An audit includes examining, on a test basis, evidence about KUB's compliance with those requirements and performing such other procedures as we considered necessary in the circumstances.

We believe that our audit provides a reasonable basis for our opinion on compliance for the major federal program. However, our audit does not provide a legal determination of KUB's compliance.

Board of Commissioners
Knoxville Utilities Board
Knoxville, Tennessee

## Opinion on the Major Federal Program

In our opinion, KUB complied, in all material respects, with the types of compliance requirements referred to above that could have a direct and material effect on each of its major federal programs for the year ended June 30, 2016.

## Report on Internal Control over Compliance

Management of KUB is responsible for establishing and maintaining effective internal control over compliance with the types of compliance requirements referred to above. In planning and performing our audit of compliance, we considered KUB's internal control over compliance with the types of requirements that could have a direct and material effect on the major federal program to determine the auditing procedures that are appropriate in the circumstances for the purpose of expressing an opinion on compliance for the major program and to test and report on internal control over compliance in accordance with the Uniform Guidance, but not for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, we do not express an opinion on the effectiveness of KUB's internal control over compliance.

A *deficiency in internal control over compliance* exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of a federal program on a timely basis. A *material weakness in internal control over compliance* is a deficiency, or combination of deficiencies, in internal control over compliance, such that there is a reasonable possibility that material noncompliance with a type of compliance requirement of a federal program will not be prevented, or detected and corrected, on a timely basis. A *significant deficiency in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance with a type of compliance requirement of a federal program that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over compliance was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies. We did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements of the Uniform Guidance. Accordingly, this report is not suitable for any other purpose.

Coulter & Justus, P.C.

Knoxville, Tennessee
October 27, 2016

APPENDIX G

# SUMMARY OF CERTAIN PROVISIONS
# OF
# ELECTRIC BOND RESOLUTION

# SUMMARY OF CERTAIN PROVISIONS OF THE ELECTRIC BOND RESOLUTIONS

The following statements are brief summaries of certain provisions of the Electric Bond Resolutions, copies of which are available for examination at the offices of the Board. Terms defined in the Electric Bond Resolutions and not defined below or elsewhere in this Official Statement shall have the meaning set forth in the Electric Bond Resolutions. Section numbers refer to sections of Resolution No. 1644, as amended by Resolution No. 2171, Resolution No. 3491, Resolution No. R-317-90, Resolution No. R-422-98, Resolution No. R-149-01 and Resolution No. R-332-2010 and as supplemented by Resolution No. R-___-2017 and as otherwise supplemented prior to the date hereof (collectively, the "Resolution").

## Security

The Series HH-2017 Bonds constitute and, when issued will be Bonds under the Resolution. All Series HH-2017 Bonds are limited obligations of the City, payable solely and ratably from the net revenues of the Electric System of the City and are on parity with each other in all respects.

The Series HH-2017 Bonds will be issued pursuant to the Resolution which sets forth in detail covenants of the City with respect to the Series HH-2017 Bonds. The following summary is a brief outline of certain provisions contained in the Resolution and is not to be considered as a full statement thereof. This summary is qualified by reference to and is subject to the Resolution, copies of which may be examined at the office of the Board.

## Certain Definitions

"Accreted Value" shall mean, with respect to any Capital Appreciation Debt, an amount equal to the principal amount of such Capital Appreciation Debt (determined on the basis of the principal amount per $5,000 at maturity thereof) plus the amount assuming semi-annual compounding of earnings which would be produced on the investment of such principal amount, beginning on the dated date of such Capital Appreciation Debt and ending at the date such Accreted Value is calculated, at a yield which, if produced until maturity, will produce $5,000 at maturity. As of any Valuation Date, the Accreted Value of any Capital Appreciation Debt shall mean the amount set forth for such date in the resolution authorizing such Capital Appreciation Debt, which amount shall be required to be determined in the manner described above, and as of any date other than a Valuation Date, the sum of (a) the Accreted Value on the preceding Valuation Date and (b) the product of (1) a fraction, the numerator of which is the number of days having elapsed from the preceding Valuation Date and the denominator of which is the number of days from such preceding Valuation Date to the next succeeding Valuation Date and (2) the difference between the Accreted Values for such Valuation Dates.

"Aggregate Debt Service" for any period shall mean, as of any date of calculation, the sum of the amounts of Debt Service for such period with respect to all indebtedness with respect to which such calculation is required to be made for such period.

"Balloon Date" shall mean any maturity date for Balloon Indebtedness in a Balloon Year.

"Balloon Indebtedness" shall mean any bonds, notes or other indebtedness of the Board or the City, on behalf of the Board, other than Short-Term Indebtedness, twenty-five percent or more of the initial principal amount of which matures (or must be redeemed at the option of the holder) during any twelve month period, if such twenty-five percent or more is not to be amortized to below twenty-five percent by mandatory redemption prior to the beginning of such twelve month period.

"Balloon Year" shall mean any 12-month period in which more than 25% of the original principal amount of related Balloon Indebtedness matures or is subject to mandatory redemption by the Authority.

"Capital Appreciation Debt" shall mean any bonds, notes or other indebtedness of the Board or of the City on behalf of the Board as to which interest is payable only at the maturity or prior redemption of such bonds.

"Commitment," when used with respect to Balloon Indebtedness, shall mean a binding written commitment from a financial institution, surety, or insurance company to refinance such Balloon Indebtedness on or prior to any Balloon Date thereof.

"Consulting Engineer" shall mean (i) an engineering firm or individual engineer employed by the Board with substantial experience in advising utilities similar to the System operated by the Board as to the construction and maintenance of the System and in the projection of relative costs of expansion in the System or (ii) an engineer or engineers who are employees of the Board whose reports or projections are certified by a financial advisor with substantial experience in advising utilities similar to the System.

"Current Operating Expenses" shall include but not be limited to, expenses for ordinary repairs, removals and replacements of the System, salaries and wages, employees' health, hospitalization, pension and retirement expenses, fees for services, materials and supplies, rents, administrative and general expenses (including legal, engineering, accounting and financial advisory fees and expenses and costs of other consulting or technical services not funded with proceeds of indebtedness), insurance expenses, taxes and other governmental charges, the imposition or amount of which is not subject to control of the Board or the City, any payments made by the Board during any fiscal year to purchase electrical power for delivery during or after the end of that fiscal year, and other payments made under any electrical power supply contract, and any principal or interest payments made by the Board during any fiscal year on bonds, notes or other obligations, including loan agreements, issued or entered into for the purpose of financing the purchase of electrical power, and to the extent so provided by the resolution authorizing such bonds, notes or obligations and to the extent not inconsistent with generally accepted accounting principles. Current Operating Expenses do not include depreciation or obsolescence charges or reserves therefor, amortization of intangibles or other bookkeeping entries of a similar nature, interest charges and charges for the payment of principal or amortization of bonded or other indebtedness of the Board or the City, on behalf of the Board, payable from revenues of the System, costs or charges made therefor, capital additions, replacements, betterments, extensions or improvements to or retirement from the System which under generally accepted accounting principles are properly chargeable to the capital account or the reserve for depreciation, and do not include losses from the sale, abandonment, reclassification, revaluation or other disposition of any properties of the System, nor such property items, including taxes and fuels, which are capitalized pursuant to the then existing accounting practices of the Board or expenses of a system that is merged into the System, as permitted hereunder, if revenues of the merged system are not included in Revenues at the election of the Board. If the Board operates its utilities as a Combined System, as defined herein, Current Operating Expenses shall be deemed to refer to the Current Operating Expenses of the Combined System.

"Debt Service" for any period shall mean, as of any date of calculation and with respect to the indebtedness with respect to which such calculation is being made, an amount equal to (i) the interest accruing during such period on such indebtedness plus (ii) the portion of each Principal Installment which would accrue during such period if such Principal Installment were deemed to accrue periodically in equal amounts from the next preceding Principal Installment due date for such indebtedness (or, if there shall be no such preceding Principal Installment due date, from a date of issuance of the indebtedness). For purposes of this definition:

(a) The principal and interest portions of the Accreted Value of Capital Appreciation Debt becoming due at maturity or by virtue of a Sinking Fund Installment shall be included in the calculations of accrued and unpaid and accruing interest or Principal Installments in such manner and during such period of time as is specified in the resolution authorizing such Capital Appreciation Debt.

(b) The annual principal and interest requirement on Short-Term Indebtedness shall be calculated as that amount necessary to amortize the Short-Term Indebtedness from the date it was issued over twenty (20) years in twenty (20) approximately equal annual payments of principal and interest using an assumed interest rate (which shall be the interest rate as of the date of issuance or the date of calculation, whichever is less, certified by a Financial Advisor to be the interest rate at which the City on behalf of the Board could reasonably expect to borrow the same amount by issuing indebtedness with the same priority of lien as such Balloon Indebtedness and with a 20-year term).

(c) With respect to any Variable Rate Indebtedness, including Hedged Indebtedness if the interest thereon calculated as set forth below is expected to vary, the interest coming due in any specified future period shall be determined as if the interest rate in effect at all times during such future period was, at the option of the Board, either (1) the average of the actual interest rates which were in effect (weighted according to the length of the period during which each such interest rate was in effect) for the most recent 12-month period immediately preceding the date of calculation for which such information is available (or shorter period if such information is not available for a 12-month period), or (2) the current average annual fixed rate of interest on securities of similar quality having a similar maturity date as certified by a Financial Advisor.

(d) With respect to any Hedged Indebtedness, the interest on such Hedged Indebtedness during any Hedge Period and for so long as the provider of the related Hedge Agreement has not defaulted on its payment obligations thereunder shall be calculated by adding (x) the amount of interest payable by the City or the Board on such Hedged Indebtedness pursuant to its terms and (y) the amount of Hedge Payments payable by the City or the Board under the related Hedge Agreement and subtracting (z) the amount of Hedge Receipts payable by the provider of the related Hedge Agreement at the rate specified in the related Hedge Agreement; provided, however, that to the extent that the provider of any Hedge Agreement is in default thereunder, the amount of interest payable by the City or the Board on the related Hedged Indebtedness shall be the interest calculated as if such Hedge Agreement had not been executed. In determining the amount of Hedge Payments or Hedge Receipts that are not fixed throughout the Hedge Period (i.e., which are variable), payable or receivable for any future period, such Hedge Payments or Receipts for any period of calculation (the "Determination Period") shall be computed by assuming that the variables comprising the calculation (e.g., indices) applicable to the Determination Period are equal to the average of the actual variables which were in effect (weighted according to the length of the period during which each such variable was in effect) for the most recent 12-month period immediately preceding the date of calculation for which such information is available (or shorter period if such information is not available for a 12-month period).

(e) With respect to Balloon Indebtedness (1) which is subject to a Commitment or (2) which does not have a Balloon Year commencing within 12 months from the date of calculation, such Balloon Indebtedness shall be assumed to be amortized in substantially equal annual amounts to be paid for principal and interest over an assumed amortization period of 20 years from the date of issuance at an assumed interest rate (which shall be the interest rate as of the date of issuance or the date of calculation, whichever is less, certified by a Financial Advisor to be the interest rate at which the City on behalf of the Board could reasonably expect to borrow the same amount by issuing indebtedness with the same priority of lien as such Balloon Indebtedness and with a 20-year term); provided, however, that if the maturity of such Balloon Indebtedness (taking into account the term of any Commitment) is in excess of 20 years from the date of issuance, then such Balloon Indebtedness shall be assumed to be amortized in substantially equal annual amounts to be paid for principal and interest over an assumed amortization period of years equal to the number of years from the date of issuance of such Balloon Indebtedness to maturity (including the Commitment) and at the interest rate provided above. For the purpose of calculating the Debt Service Requirement on Balloon Indebtedness (a) which are not subject to a Commitment and (b) which have a Balloon Year commencing within 12 months from the date of calculation, the principal payable on such Balloon Indebtedness during the Balloon Year shall be calculated as if paid on the Balloon Date.

(f) The principal of and interest on Parity Indebtedness and Hedge Payments shall be excluded from the determination of Debt Service to the extent that the same were or are expected to be paid with amounts on deposit on the date of calculation (or proceeds of indebtedness to be deposited on the date of issuance of any proposed Parity Indebtedness) in a fund established for such purpose.

"Financial Advisor" shall mean an investment banking or financial advisory firm or commercial bank who or which is retained by the Board for the purpose of passing on questions relating to the availability and terms of specified types of indebtedness and is actively engaged in and, in the good faith opinion of the Board, has a favorable reputation for skill and experience in underwriting or providing financial advisory services in respect of similar types of securities.

"Fiscal Year" shall mean the twelve month period beginning July 1 of each year and ending June 30 of the following year.

"Hedge Agreement" shall mean, without limitation, (i) any contract known as or referred to or which performs the function of an interest rate swap agreement, currency swap agreement, forward payment conversion agreement, or futures contract; (ii) any contract providing for payments based on levels of, or changes or differences in, interest rates, currency exchange rates, or stock or other indices; (iii) any contract to exchange cash flows or payments or series of payments; (iv) any type of contract called, or designed to perform the function of, interest rate floors, collars, or caps, options, puts, or calls, to hedge or minimize any type of financial risk, including, without limitation, payment, currency, rate, or other financial risk; and (v) any other type of contract or arrangement that the Board determines is to be used, or is intended to be used, to manage or reduce the cost of any indebtedness or other obligations, to convert any element of any indebtedness or other obligations from one form to another, to maximize or increase investment return, to minimize investment return risk, or to protect against any type of financial risk or uncertainty. A Hedge Agreement shall not include any commodity hedge agreement or similar arrangement. For purposes of Resolution No. 1644, as amended, a Hedge Agreement shall be deemed not to have any principal amount for purposes of obtaining consents or approvals of holders of Parity Indebtedness or for otherwise determining the amount of Outstanding Parity Indebtedness.

"Hedged Indebtedness" shall mean any indebtedness or other obligation for which the Board or the City, on behalf of the Board, shall have entered into a Qualified Hedge Agreement.

"Hedge Payments" shall mean amounts payable by the Board or the City, on behalf of the Board, pursuant to any Hedge Agreement, other than termination payments, fees, expenses, and indemnity payments.

"Hedge Period" shall mean the period during which a Hedged Agreement is in effect.

"Hedge Receipts" shall mean amounts payable by any provider of a Hedge Agreement pursuant to such Hedge Agreement, other than termination payments, fees, expenses, and indemnity payments.

"Maximum Annual Aggregate Debt Service" shall mean the maximum Aggregate Debt Service in the Fiscal Year during which such calculation is made or any future Fiscal Year.

"Net Revenues" shall mean Revenues, excluding any profits or losses on the sale or other disposition, not in the ordinary course of business, of investments or fixed or capital assets, less Current Operating Expenses.

"Outstanding Parity Indebtedness" shall mean any Parity Indebtedness that is outstanding under the Resolution or other document under which such Parity Indebtedness is issued.

"Parity Indebtedness" shall mean bonds, notes, loan agreements, and other debt obligations, including Balloon Indebtedness, Short-Term Indebtedness, Variable Rate Indebtedness and Hedge Agreements (but only to the extent of Hedge Payments), issued by or entered into by the Board or by the City on behalf of the Board on a parity of lien under Resolution No. 1644 in accordance with the restrictive provisions of the Resolution described herein, including any bonds, notes, loan agreements or other obligations secured by a pledge of and/or lien on a Merged System and the revenues derived from the operation of such Merged System, as defined herein, (provided such pledge and lien are subject only to normal and customary expenses of operating, maintaining, repairing and insuring any such System), so long as the Merged System is not being operated separately from the System as is permitted herein.

"Principal Installment" shall mean, as of the date of calculation and with respect to the indebtedness with respect to which the calculation is being made, (i) the principal amount of the indebtedness due on a certain future date for which no Sinking Fund Installments have been established, (ii) Sinking Fund Installment due on a certain future date for such indebtedness and (iii) if such future dates coincide, the sum of such principal amount and any such Sinking Fund Installment.

"Qualified Hedge Provider" shall mean an entity whose senior unsecured long term obligations, financial program rating, counterparty rating, or claims paying ability, or whose payment obligations under the related Hedge Agreement are absolutely and unconditionally guaranteed or insured or collateralized by an entity whose senior unsecured long term obligations, financial program rating, counterparty rating, or claims paying ability, are rated either (i) at least as high as "A" or better by Standard & Poors' Rating Group (or any successor thereto) ("S&P") or "A2" or better by Moody's Investors Services, Inc. (or any successor thereto) ("Moody's") (the "Initial Rating Requirement") and such entity maintains a rating on its debt or claims paying ability of not less than "A-" from S&P or "A3" from Moody's (the "Minimum Rating Requirement"); provided that this requirement shall be deemed to have been met, even if the rating of such entity is reduced below the Minimum Rating Requirement, if such entity is replaced with an entity meeting the Initial Rating Requirement within twenty business days from when the Board receives notice that the Minimum Rating Requirement has not been met. An entity's status as a Qualified Hedge Provider is made as of the time the applicable calculation is made.

"Revenues" shall mean all revenues, rentals, earnings and income of the System from whatever source, determined in accordance with generally accepted accounting principles, including all revenues derived from the operation of the System; proceeds from the sale of property; proceeds of insurance and condemnation awards and compensation for damages, to the extent not applied to the payment of the cost of repairs, replacements and improvements; and all amounts realized from the investment of money in the accounts and funds of the System (excluding any investment earnings from construction or improvement funds created for the deposit of bond, note, or loan agreement proceeds pending use, to the extent such income is applied to the purposes for which the bonds, notes or loan agreement were issued, and funds created to refund any outstanding obligations payable from Revenues of the System) and at the election of the Board, shall not include any rates, fees, rentals or other charges or other income received by the Board from the operation of a Merged System.

"Short-Term Indebtedness" shall mean bonds, notes or other obligations, including Variable Rate Indebtedness, maturing five (5) years or less from their date of issuance which are issued in anticipation of the issuance of revenue bonds the proceeds of which will be used to pay the Short-Term Indebtedness.

"Sinking Fund Installment" shall mean, as of any particular date of calculation, the amount required to be paid on a certain future date for the retirement of Outstanding Parity Indebtedness which mature after said future date, but does not include any amount payable by reason of the maturity of an Outstanding Parity Indebtedness or by call for redemption at the election of the Board or the City on behalf of the Board.

"Valuation Date" shall mean with respect to any Capital Appreciation Indebtedness, the date or dates set forth in the resolution authorizing such Capital Appreciation Bonds on which specific Accreted Values are assigned to the Capital Appreciation Bonds.

"Variable Rate Indebtedness" shall mean any bonds, notes or other obligations of the Board or the City, on behalf of the Board, the interest rate on which is subject to periodic adjustment, at intervals, at such times and in such manner as shall be determined by the resolution authorizing such indebtedness, provided that if the interest rate shall have been fixed for the remainder of the term thereof (including a fixed rate pursuant to a Hedge Agreement with a Qualified Hedge Provider), it shall no longer be Variable Rate Indebtedness.

The term "Bonds" in Resolution No. 1644 shall for all purposes have the same meaning as "Parity Indebtedness" described above unless the context clearly requires otherwise, and notwithstanding any provision of Resolution No. 1644 to the contrary, any Parity Indebtedness issued on a parity of lien under the Resolution, as amended, may be in such form, may be executed in such manner, may be payable upon such terms and upon such dates, may be subject to such registration provisions, may be designated in such manner, may be issued for such purpose and may be issued pursuant to such applicable laws as is provided in the resolution authorizing such Parity Indebtedness.

## Pledge of Revenues

The punctual payment of principal and premium, if any, and interest on all Parity Indebtedness and Hedge Payments with respect to Parity Indebtedness shall be payable from and secured equally and ratably by the Net Revenues of the System, without priority by reason of number or time of sale or execution or delivery and such Net Revenues are irrevocably pledged to the punctual payment of such principal, premium, interest and Hedge Payments as the same become due.

## Disposition of Revenues

As long as any Parity Indebtedness shall be outstanding and unpaid either as to principal or as to interest, or until the discharge and satisfaction of the Parity Indebtedness as provided in the resolution authorizing said Parity Indebtedness, the entire income and revenues of the System shall be deposited as collected in the Revenue Fund established by the Resolution (the "Revenue Fund"), to be administered and controlled by the Board. The income and revenues deposited therein shall be used only as follows:

(a) The money in the Revenue Fund shall be disbursed first from month to month for the payment of Current Operating Expenses.

(b) The money remaining in the Revenue Fund, after payment of Current Operating Expenses, shall next be used to make deposits into a separate and special fund, to be known as the Debt Service Fund (the "Debt Service Fund"), to be kept separate and apart from all other funds of the Board and used to pay principal of and interest on Parity Indebtedness and Hedge Payments (net of Hedge Receipts) with respect thereto as the same become due, either by maturity or mandatory redemption. Such deposits shall be made monthly, or as otherwise set forth herein or in the resolution authorizing such Parity Indebtedness or Hedged Payments, until all Parity Indebtedness is paid in full or discharged and satisfied. Unless otherwise authorized in the resolution authorizing any Parity Indebtedness, for the period commencing with the month next following the delivery of the Parity Indebtedness, each monthly deposit shall be an amount that, together with all other monthly deposits of approximately equal amounts during such period and amounts otherwise in said Fund, will be equal to principal due on the Parity Indebtedness on the next principal payment date, divided by the number of months from and including the month of the first such deposit to and including the months preceding the next principal payment date; provided that, if the next principal payment date is more than 13 months following the month next following the delivery of the Parity Indebtedness, such monthly deposits to the Debt Service Fund shall commence in the month that is 13 months prior to the month of the next principal payment date. Furthermore, during such period, there shall be deposited to the Debt Service Fund monthly an amount equal to one-sixth (1/6) of the interest coming due on the next interest payment date for Parity Indebtedness (unless otherwise specified in the resolution authorizing such Parity Indebtedness).

In each month thereafter, each monthly deposit shall consist of an interest component and a principal component except as provided above. If interest is payable semi-annually, then the interest component shall be an amount equal to not less than one-sixth (1/6th) of the interest coming due on any Parity Indebtedness on the next succeeding interest payment date, unless otherwise specified in the resolution authorizing such Parity Indebtedness. Unless otherwise specified in the resolution authorizing Parity Indebtedness, the principal component shall be an amount which shall be established annually on each July 1 for all payments to be made during the ensuing twelve-month period commencing in July of each calendar year and ending in June of the following calendar year and shall be not less than one-twelfth (1/12) of the principal amounts, as the case may be, coming due, whether by maturity or mandatory redemption, on the Parity Indebtedness then outstanding during such twelve-month period. No further deposit shall be required when the Debt Service Fund balance is equal to or greater than the amount needed to pay interest coming due on the next interest payment date and the total of the principal amounts payable, either by maturity or mandatory redemption, during the applicable twelve-month period. Money in the Debt Service Fund shall be used solely and is expressly and exclusively pledged for the purpose of paying principal of and interest on Parity Indebtedness. Notwithstanding the foregoing, deposits for the payment of principal and interest on Variable Rate Indebtedness or Hedge Payments shall be made as set forth in the resolution authorizing such Variable Rate Indebtedness or Hedge Payments.

(c) The next available money in the Revenue Fund shall be paid to any issuer of an insurance policy, surety bond, letter of credit or similar instrument (a "Reserve Fund Credit Facility") (pro rata, if more than one) to the extent needed to reimburse the issuer for any amounts advanced under the Reserve Fund Credit Facility, including any amounts payable under any guaranty agreement relating to such amounts, together with reasonable related expenses incurred by the issuer of such Reserve Fund Credit Facility and any interest relating to such amounts.

(d) The next available money in the Revenue Fund shall be deposited to any reserve fund created pursuant to any resolution authorizing Parity Indebtedness in the manner provided in such resolution.

(e) The next available money in the Revenue Fund shall be used to pay liquidity fees, remarketing agent fees and similar fees that are payable in connection with the issuance of Parity Indebtedness.

(f) The next available money in the Revenue Fund shall be used for the payment of all other payments to be made under the Parity Indebtedness not provided for in the preceding subsections including payments in connection with Hedge Agreements that are not Hedge Payments, including termination payments.

(g) The next available money in the Revenue Fund shall be used for the purpose of making payments in lieu of taxes and, to the extent not so used, may be used for any lawful purpose, including such reserve funds and other funds as the Board deems necessary and appropriate.

(h) Money on deposit in the Funds described above may be invested by the Board in such investments as shall be permitted by applicable law, as determined by an authorized representative of the Board, all such investments to mature not later than the date on which the money so invested shall be required for the purpose for which the respective Fund was created. All income derived from such investments shall be regarded as revenues of the System and shall be deposited in the Revenue Fund. Such investments shall at any time necessary be liquidated and the proceeds thereof applied to the purpose for which the respective Fund was created. The Board is authorized to enter into contracts with third parties for the investment of funds in any of the Funds described herein.

(i) The Revenue Fund and the Debt Service Fund shall be held and maintained by the Board and, when not invested, kept on deposit with a bank or financial institution regulated by and the deposits of which are insured by the Federal Deposit Insurance Corporation or similar federal agency. All moneys in such Funds so deposited shall at all times be secured to the extent and in the manner required by applicable State law.

## Additional Indebtedness

The Series HH-2017 Bonds issued pursuant to the Resolution shall be on a parity with the Outstanding Parity Indebtedness, and with all Parity Indebtedness hereafter issued within the terms, limitations and restrictions of the Resolution, as amended.

The City has covenanted that it will incur no indebtedness payable from the revenues of the Electric System and having priority over the Series HH-2017 Bonds.

The following shall apply to the incurrence of additional Parity Indebtedness:

(a) All payments required to be made to the Debt Service Fund and into any reserve fund which may be required under resolutions authorizing Parity Indebtedness are current as of the date of issuance of the additional bonds, notes or other obligations, additional bonds, notes or other obligations may be issued or entered into by the City or the Board on a parity and equality of lien with the Outstanding Parity Indebtedness with respect to the lien and claim of such additional bonds, notes or other obligations to the net revenues of the System and the money on deposit in the Debt Service Fund for the following purposes and under the following conditions, but not otherwise:

(i) For the purpose of refunding any Outstanding Parity Indebtedness, subordinate bonds, notes, loan agreements or other obligations, provided that after the issuance of such additional Parity Indebtedness, the Aggregate Debt Service on all Outstanding Parity Indebtedness, including the additional Parity Indebtedness to be issued, in any Fiscal Year shall not increase by more than ten percent (10%) after the issuance of such additional Parity Indebtedness.

(ii) For the purpose of financing the completion or equipping of improvements to the System for which Outstanding Parity Indebtedness have previously been issued but only to the extent necessary to complete such improvements in the manner contemplated at the time of the issuance of the Outstanding Parity Indebtedness that financed such improvements.

(iii) For the purposes of refunding any Outstanding Parity Indebtedness or any Prior Lien Bonds, subordinated bonds, notes or other obligations or extending, improving or replacing the System or for any other lawful purposes under applicable law, if one of the following conditions shall have been met: (A) the Net Revenues for any twelve-month period selected by the Board ending within the twelve months prior to the date of the issuance of the additional Parity Indebtedness must have been equal to at least 120% of the Maximum Annual Aggregate Debt Service on Outstanding Parity Indebtedness plus the Debt Service on the additional Parity Indebtedness proposed to be issued or (B) the estimated Net Revenues of the System for each of the three Fiscal Years next succeeding the issuance of the additional Parity Indebtedness, must be equal at least to 120% of Maximum Annual Aggregate Debt Service on the Notes, any other Outstanding Parity Indebtedness and all outstanding Prior Lien Bonds plus the Debt Service on the additional Parity Indebtedness proposed to be issued; provided, however, that if the additional Parity Indebtedness is to be issued for the acquisition or construction of any extension, improvement or replacement to the System, then the estimate of Net Revenues may be for the three Fiscal Years ensuing after the time that such improvement, extension or replacement is expected to be placed in service.

(iv) For the purpose of entering into a Hedge Agreement with a Qualified Hedge Provider with respect to Outstanding Parity Indebtedness but only to the extent of Hedge Payments.

(b) In calculating Net Revenues, Debt Service and Maximum Annual Aggregate Debt Service for all purposes under the Resolution, the following adjustments and assumptions shall be made:

(i) In calculating Net Revenues on a historical basis, the amount of such Net Revenues may be adjusted to take into account any rate increase adopted by the Board that is effective prior to the date of such calculation.

(ii) In calculating projected Net Revenues for any period in the future, the amount of such Net Revenues may be adjusted to take into account any rate increase adopted by the Board that is to be effective within one year of the date of such calculation, and if such calculation is being made in connection with the issuance of Parity

Indebtedness, the Net Revenues may be calculated based upon the assumption that any improvements financed with proceeds of the Parity Indebtedness will be completed within a time period established in a report of a Consulting Engineer.

(c) Any calculation or projection of Net Revenues described above, whether for a historical period or for a future period, shall be set forth in a certificate of the President and Chief Executive Officer and Chief Financial Officer of the Board. If the calculation is made as to a future period, a Consulting Engineer shall state in a report that the assumptions underlying any projections of the Board as to Net Revenues are reasonable. Any calculation of the Maximum Annual Aggregate Debt Service shall also be set forth in a certificate of the President and Chief Executive Officer and Chief Financial Officer of the Board, which certificate shall be accompanied by a certificate of a financial advisory firm to the effect that the calculation of Maximum Annual Aggregate Debt Service is correct and is in compliance with the terms of the Resolution, but such certificate of the financial advisory firm shall only be required if Variable Rate Indebtedness, Balloon Indebtedness or Short-Term Indebtedness must be taken into account in the calculation of Maximum Annual Aggregate Debt Service.

(d) Any obligation of the Board to pay amounts under a Hedge Agreement other than Hedge Payments, including a termination payment upon the termination of a Hedge Agreement, shall be a subordinate obligation to the obligations with respect to Parity Indebtedness.

## Collection of Revenues

All revenues which will be received by the City from the System shall be deposited in a separate fund, which shall be kept separate and distinct from all other funds of the City, and is designated as the "Electric Fund."

## Rate Covenant

The City will fix rates and collect charges for electric energy and the services, facilities and commodities furnished by the System of the City so as to provide revenues sufficient to pay, as the same shall become due, the principal of and interest on the bonds, in addition to pay, as the same shall become due, the necessary expenses or operating and maintaining the System and all other obligations and indebtedness payable out of the Electric Fund, and that such rates and charges shall not be reduced so as to be insufficient to provide revenues for such purposes.

## Operating and Maintenance

The City will maintain the System in good condition, and will operate the System in an efficient and economical manner, making such expenditures for equipment and for renewals and replacement as may be proper for the economical operation and maintenance thereof.

## Discharge and Satisfaction of Bonds

If the Board, on behalf of the City, shall pay and discharge the indebtedness evidenced by any of the Series HH-2017 Bonds or Parity Bonds (referred to hereinafter, collectively, in this Section as the "Bonds") in any one or more of the following ways:

(a) By paying or causing to be paid, by deposit of sufficient funds as and when required with the Registration Agent, the principal of and interest on such Bonds as and when the same become due and payable;

(b) By depositing or causing to be deposited with any financial institution which has trust powers and which is regulated by and the deposits of which are insured by the Federal Deposit Insurance Corporation or similar federal agency ("as Agent"; which Agent may be the Registration Agent), in trust or escrow, on or before the date of maturity or redemption, sufficient money or Defeasance Obligations, the principal of and interest on which, when due and payable, will provide sufficient moneys to pay or redeem such Bonds and to pay premium, if any, and interest thereon when due until the maturity or redemption date (provided, if such Bonds are to be redeemed prior to maturity thereof, proper notice of such redemption shall have been given or adequate provision shall have been made for the giving of such notice); or

(c) By delivering such Bonds to the Registration Agent, for cancellation by it;

and if the Board, on behalf of the City, shall also pay or cause to be paid all other sums payable under the Resolution by the Board or the City with respect to such Bonds, or make adequate provision therefor, and by resolution of the Board instruct any such Agent to pay amounts when and as required to the Registration Agent for the payment of principal of and interest and redemption premiums, if any, on such Bonds when due, then and in that case the indebtedness evidenced by such Bonds shall be discharged and satisfied and all covenants, liens, pledges, agreements and obligations entered into, created or imposed under the Resolution, including the pledge of and lien on the net revenues of the System set forth herein, shall be fully discharged and satisfied with respect to such Bonds and the owners thereof and shall thereupon cease, terminate and become void.

If the Board, on behalf of the City, shall pay and discharge or cause to be paid and discharged the indebtedness evidenced by any of the Bonds in the manner provided in either clause (a) or clause (b) above, then the registration owners thereof shall thereafter be entitled only to payment out of the money or Defeasance Obligations deposited as aforesaid.

Except as otherwise provided in the Resolution, neither Defeasance Obligations nor moneys deposited with the Agent pursuant to this Section nor principal or interest payments on any such Defeasance Obligations shall be withdrawn or used for any purpose other than, and shall be held in trust for, the payment of the principal of and premium, if any, and interest on said Bonds; provided that any cash received from such principal or interest payments on such Defeasance Obligations deposited with the Agent, (A) to the extent such cash will not be required at any time for such purpose, shall be paid over to the Board as received by the Agent and (B) to the extent such cash will be required for such purpose at a later date, shall, to the extent practicable, be reinvested in Defeasance Obligations maturing at times and in amounts sufficient to pay when due the principal and premium, if any, and interest to become due on said Bonds on or prior to such redemption date or maturity date thereof, as the case may be, and interest earned from such reinvestments, to the extent not needed for the payment of such principal, premium and interest, shall be paid over to the Board, as received by the Agent. For the purposes described herein, Defeasance Obligations shall mean direct obligations of, or obligations, the principal of and interest on which are guaranteed by, the United States of America, or any agency thereof, obligations of any agency or instrumentality of the United States or any other obligations at the time of the purchase thereof are permitted investments under Tennessee law for the purposes described in this Section, which bonds or other obligations shall not be subject to redemption prior to their maturity other than at the option of the registered owner thereof.

Nothing described above shall be construed to alter or change the redemption provisions relating to the Series HH-2017 Bonds. No redemption privilege shall be exercised with respect to the Series HH-2017 Bonds or any Parity Bonds except at the option and election of the Board. The right to redemption set forth in the Resolution shall not be exercised by any Registration Agent or Agent unless expressly directed in writing by an authorized representative of the Board.

## Sale of Electric System

The System may be sold, mortgaged, leased or otherwise disposed of only as a whole, or substantially as a whole, and only if the proceeds to be realized shall be sufficient to fully retire all obligations of the System and upon consent by the holders of sixty-five percent (65%) in the aggregate principal amount of the outstanding Bonds (exclusive of issuer-owned Bonds) to be obtained in the manner provided in the Resolution; provided, however, that the City shall have, and reserves the right to sell, lease, or otherwise dispose of any of the property comprising a part of the System determined to be no longer necessary and useful in the operation thereof, which is found, by the Board, or such other body as may be authorized to manage and operate the System, not to be both useful and necessary for the continued operation of the System substantially as it now exists; and, prior to any such sale, lease or other disposition of said property, the Board, or such other body as may be authorized to manage and operate the System shall, by resolution duly adopted, have made said finding and authorized such sale, lease or other disposition of the property. The proceeds from any such property shall be paid into the Renewal and Replacement Fund, but shall not reduce the amount otherwise required to be paid into said fund. Disbursement of such additional payments shall be made in the same manner and for the same purposes as other disbursements from the Renewal and Replacement Fund.

Notwithstanding anything elsewhere provided in the Resolution, and without being subject to any of the foregoing restrictions, the City shall have the right to sell, lease, transfer, or otherwise dispose of the System, as a whole or substantially as a whole, to any municipal corporation, county, political subdivision, governmental corporation, or governmental agency (each of which shall be included within the term "Transferee" as herein used), provided the Transferee thus acquiring the System from the City will assume the performance of and be bound by all of the City's obligations to the holders of the Bonds under the covenants and provisions of the Resolution, as amended.

## Insurance

The City will carry adequate fire and windstorm insurance on buildings and contents of buildings of the System and provide for adequate public liability insurance, and the City will also carry such other insurance as is ordinarily carried by utility companies privately or municipally owned and doing a similar business in territory contiguous to the City. Proceeds from any insurance policies, except public liability, shall be paid into the Renewal and Replacement Fund which payments shall not reduce the amount otherwise required to be paid into said fund. Disbursements of such proceeds of insurance shall be made in the same manner and for the same purposes as other disbursements from the Renewal and Replacement Fund.

## Audits

The City will cause proper books and accounts adapted to the System to be kept and will cause the books and accounts with respect to the System to be audited annually by an independent firm of certified public accountants, and will make generally available to security holders the balance sheet and the profit and loss statement of the System as certified by such accountants.

## Appointment of Receiver

Any holder of the Bonds, including a trustee or trustees for such holders shall, in addition to all other remedies and rights of holders of any of the Bonds, have the right, by appropriate proceedings in any court of competent jurisdiction, in the event of default in the payment of the principal of or interest on the Bonds, to obtain the appointment of a receiver for the System, which receiver may enter upon and take possession of the System, operate and maintain the System, fix rates and collect all revenues arising therefrom in as full a manner and to the same extent as the City itself might do. The receiver shall deposit all moneys collected by him in a separate account or accounts and shall dispose of such revenues in accordance with the terms and conditions of the Resolution and as the court shall direct.

## Amendment of Resolution

The Resolution may be amended without the consent of or notice to the holders of the Parity Indebtedness for the purposes of (i) curing any ambiguity or formal defect or omission in the Resolution; (ii) making such amendments as are necessary to prevent interest on any Parity Indebtedness from being included in gross income of the holders thereof for federal income tax purposes; (iii) adding to the covenants and agreements of the City or the Board or surrendering or limiting any right or power of the City or the Board; or (iv) making such amendments as are necessary for any Parity Indebtedness to be held or continue to be held in book-entry form.

In addition to the amendments to the Resolution without the consent of the holders as referred to above, the Resolution may be amended from time to time if such amendment shall have been consented to by the holders of not less than a majority in principal amount of Outstanding Parity Indebtedness (not including in any case any Bonds or Parity Indebtedness which may then be held or owned by or for the account of the City or Board); but the Resolution may not be so amended (without the consent of all affected holders of Outstanding Parity Indebtedness) in such manner as to:

(a) make any change in the maturity or interest rate (other than in accordance with its terms) of the Parity Indebtedness, or modify the terms of payment of principal of or interest on Parity Indebtedness or impose any conditions with respect to such payment; or

(b) to make any Parity Indebtedness redeemable other than in accordance with its terms; or

(c) to create a preference or priority of any Parity Indebtedness over any other Parity Indebtedness; or

(d) reduce the percentage of the principal amount of Parity Indebtedness the consent of the holders of which is required to effect a further amendment.

Whenever the City shall propose to amend the Resolution as described above, the Board shall cause notice of the proposed amendment to the holders of the Parity Indebtedness by sending a summary of such proposed amendment to such holders and shall state that a copy of the proposed amendatory resolution is on file in the office of the Secretary of the Board. The holders of Parity Indebtedness shall be determined by the registration records of the City or the Board or any registration agent therefor or in such other manner as is commercially reasonable.

Whenever at any time within one year from the date of the mailing of such notice there shall be filed with the Secretary an instrument or instruments executed by the holders of at least a majority aggregate principal amount of the Outstanding Parity Indebtedness, which instrument or instruments shall refer to the proposed amendatory resolution described in such notice and shall specifically consent to and approve the adoption thereof, then the Board and/or the City may adopt such amendatory resolution and such resolution shall become effective and binding upon the holders of all Parity Indebtedness.

Any consent given by the holder of Parity Indebtedness as described above shall be irrevocable for a period for one year from the date of the instrument evidencing such consent and shall be conclusive and binding upon all future holders of the same Parity Indebtedness during such period. Such consent may be revoked at any time after one year from the date of such instrument by the holder who gave such consent or by a successor in title by filing notice of such revocation with the Secretary.

For purposes of determining the aggregate principal amount of Parity Indebtedness outstanding for purposes of amendments, and whether the holders of a sufficient percentage in aggregate principal amount of Bonds and Parity Indebtedness have consented to any amendment, the Board may make such determination at any time while a request for consents to such amendment is outstanding and may include any Parity Indebtedness issued during such period in making such determination. The Accreted Value of any Capital Appreciation Debt as of the time of any such determination shall be used in making any such determination.

The fact and date of the execution of any instrument relative to amendments may be proved by the certificate of any officer in any jurisdiction who by the laws thereof is authorized to take acknowledgments of deeds within such jurisdiction, that the person signing such instrument acknowledged before him the execution thereof, or may be proved by an affidavit of a witness to such execution sworn to before such officer. In the event that any Parity Indebtedness is held in book-entry form, any consent to an amendment may be executed by any beneficial owner of such Parity Indebtedness, which beneficial ownership may be proved by an affidavit of the beneficial owner.

Notwithstanding anything in the Resolution to the contrary, the Board and/or the City may adopt amendments to the Resolution that do not become effective until the payment or defeasance of any Parity Indebtedness outstanding on the date such amendments are adopted.

### Separate Systems

Nothing contained in the Resolution shall prevent the Board from acquiring a separate electric transmission or distribution system or any combination thereof, or any other system, facilities or equipment which municipalities in Tennessee operating electric distribution systems are authorized to own, operate or finance, and nothing herein shall prevent the issuance of bonds, notes, warrants, certificates or other obligations or evidences of indebtedness, to acquire any such system or facilities. Any facilities or system acquired by the Board, at the election of the Board, may be operated as a separate and independent system or be merged into the System and operated as a single unified system with the System (the "Merged Systems"). Revenues of the Merged Systems may be commingled without keeping separate accounts of the funds of each of the systems, provided all Revenues of the Merged Systems are applied in accordance with the Resolution, including the payment of principal of and interest on all bonds, notes or other obligations of the acquired system. All Outstanding Parity Indebtedness and any bonds, notes and other obligations of the acquired system outstanding upon the merger of the systems designated by the Board may be payable from revenues of the Merged Systems on a parity and equality of lien with each other, provided the Net Revenues of the Merged Systems, for a period of twelve consecutive months (hereinafter sometimes called the "Twelve-Month Period") out of the eighteen months immediately preceding the merger of the systems shall be equal to at least 1.2 times the Maximum Annual Aggregate Debt Service on all Outstanding Parity Indebtedness, all bonds, notes and obligations of the acquired system then outstanding and any additional indebtedness to be then issued; or if within twelve months prior to any such calculation, the Board shall have put into effect a revised schedule of rates for the Merged Systems or any part thereof, then the Net Revenues of the Merged Systems, as certified by a Consulting Engineer or Financial Adviser, that would have resulted from such revised rates had they been in effect for the Twelve-Month Period, may be used in lieu of the actual Net Revenues for such Twelve-Month Period.

Combined Systems

Notwithstanding anything provided in the Resolution, nothing contained in the Resolution shall prevent the Board from combining any or all of the Board's utility systems into a single unified operation (the "Combined System") and commingling the revenues of the systems so combined in the Combined System without keeping separate accounts of the funds of each of such systems, provided payments from the funds of the Combined System are required to be made into the Debt Service Fund created hereunder from time to time in amounts sufficient to comply with provisions thereof and in amounts sufficient to pay the principal of and interest on the Outstanding Parity Indebtedness as such principal and interest becomes due. Bonds, notes and other obligations ("Parity Combined System Obligations") payable from revenues of the Combined System may be issued on a parity with Outstanding Parity Indebtedness provided at the time of the issuance of any such Parity Combined System Obligations, the following conditions have been complied with. The Net Revenues of the Combined System, for a period of twelve consecutive months (hereinafter sometimes called the "Combined Twelve-Month Period") out of the eighteen months immediately preceding the issuance of such Parity Combined System Obligations shall be equal to at least 1.2 times the Maximum Annual Aggregate Debt Service on all Outstanding Parity Indebtedness and the obligations proposed to be issued; or if within twelve months prior to the issuance of the Parity Combined System Obligations a revised schedule of rates for the Combined System or any part thereof shall have been put into effect, then the Net Revenues of the Combined System for the Twelve-Month Period, as certified by a Consulting Engineer or Financial Adviser, that would have resulted from such revised rates had they been in effect for the Twelve-Month Period, may be used in lieu of the actual Net Revenues for such Twelve-Month Period.

Amendments to Resolution No. 1644 Not Yet Effective

The following amendments will become effective only upon the defeasance or payment in full of principal of and interest on the Outstanding Bonds (other than the Series Z-2010 Bonds, Series AA-2012 Bonds, Series BB-2012 Bonds, Series CC-2013 Bonds, Series DD-2014 Bonds, Series EE-2015 Bonds, Series FF-2016 Bonds, Series GG-2016 Bonds and Series HH-2017 Bonds) or upon receipt of the necessary consents of holders of outstanding Bonds under Resolution No. 1644, which may include the holders of the Series HH-2017 Bonds. Certain of the amendments described below amend and replace the corresponding provisions summarized above.

(a) The following subparagraph shall be added to the definition of "Debt Service" at the end of such definition:

> (G) In calculating the Debt Service on any Parity Indebtedness or proposed Parity Indebtedness with respect to which the federal government or any agency thereof is or is expected to be obligated to make tax refunds or other payments to the City or the Board for the purpose of reducing the interest costs associated therewith, the Board may offset any stated interest payment on such Parity Indebtedness or proposed Parity Indebtedness by the amount of the scheduled tax refund or other payment corresponding thereto.

(b) The following sentence shall be added to the definition of "Revenues" at the end of such definition:

"Revenues" shall also not include any payments to the Board with respect to which an adjustment to Debt Service has been made pursuant to the subparagraph (G) of the definition of Debt Service.

(c) The following subsection shall be added to Section of the Resolution summarized under the heading "Application of Revenues":

> (k) Notwithstanding the foregoing, the Board may deposit any amounts described in the subparagraph (G) of the definition of Debt Service directly into the Debt Service Fund at the Board's option.

# SUMMARY OF CERTAIN PROVISIONS
# OF
# NATURAL GAS BOND RESOLUTION

# SUMMARY OF CERTAIN PROVISIONS OF THE GAS BOND RESOLUTIONS

The following statements are brief summaries of certain provisions of the Gas Bond Resolutions, copies of which are available for examination at the offices of the Board. Terms defined in the Gas Bond Resolutions and not defined below or elsewhere in this Official Statement shall have the meanings set forth in the Gas Bond Resolutions. Section numbers refer to sections of Resolution No. R-25-88, as amended by Resolution No. R-22-97, Resolution No. R-421-98, Resolution No. R-150-01, Resolution No. R-333-2010 and as supplemented by Resolution No. R-___-2017 and as otherwise supplemented prior to the date hereof (collectively, the "Resolution").

## Security

The Series W-2017 Bonds constitute and, when issued, will be Bonds under the Resolution. All Series W-2017 Bonds are limited obligations of the City, payable solely and ratably from the net revenues of the Gas System of the City and are on parity with each other in all respects.

The Series W-2017 Bonds will be issued pursuant to the Resolution which sets forth in detail covenants of the City with respect to the Series W-2017 Bonds. The following summary is a brief outline of certain provisions contained in the Resolution and is not to be considered as a full statement thereof. This summary is qualified by reference to and is subject to the Resolution, copies of which may be examined at the office of the Board.

## Certain Definitions

"Accreted Value" shall mean, with respect to any Capital Appreciation Debt, an amount equal to the principal amount of such Capital Appreciation Debt (determined on the basis of the principal amount per $5,000 at maturity thereof) plus the amount assuming semi-annual compounding of earnings which would be produced on the investment of such principal amount, beginning on the dated date of such Capital Appreciation Debt and ending at the date such Accreted Value is calculated, at a yield which, if produced until maturity, will produce $5,000 at maturity. As of any Valuation Date, the Accreted Value of any Capital Appreciation Debt shall mean the amount set forth for such date in the resolution authorizing such Capital Appreciation Debt, which amount shall be required to be determined in the manner described above, and as of any date other than a Valuation Date, the sum of (a) the Accreted Value on the preceding Valuation Date and (b) the product of (1) a fraction, the numerator of which is the number of days having elapsed from the preceding Valuation Date and the denominator of which is the number of days from such preceding Valuation Date to the next succeeding Valuation Date and (2) the difference between the Accreted Values for such Valuation Dates.

"Aggregate Debt Service" for any period shall mean, as of any date of calculation, the sum of the amounts of Debt Service for such period with respect to all indebtedness with respect to which such calculation is required to be made for such period.

"Balloon Date" shall mean any maturity date for Balloon Indebtedness in a Balloon Year.

"Balloon Indebtedness" shall mean any bonds, notes or other indebtedness of the Board or the City, on behalf of the Board, other than Short-Term Indebtedness, twenty-five percent or more of the initial principal amount of which matures (or must be redeemed at the option of the holder) during any twelve month period, if such twenty-five percent or more is not to be amortized to below twenty-five percent by mandatory redemption prior to the beginning of such twelve month period.

"Balloon Year" shall mean any 12-month period in which more than 25% of the original principal amount of related Balloon Indebtedness matures or is subject to mandatory redemption by the Authority.

"Capital Appreciation Debt" shall mean any bonds, notes or other indebtedness of the Board or of the City on behalf of the Board as to which interest is payable only at the maturity or prior redemption of such bonds.

"Commitment," when used with respect to Balloon Indebtedness, shall mean a binding written commitment from a financial institution, surety, or insurance company to refinance such Balloon Indebtedness on or prior to any Balloon Date thereof.

"Consulting Engineer" shall mean (i) an engineering firm or individual engineer employed by the Board with substantial experience in advising utilities similar to the System operated by the Board as to the construction and maintenance of the System and in the projection of relative costs of expansion in the System or (ii) an engineer or engineers who are employees of the Board whose reports or projections are certified by a financial advisor with substantial experience in advising utilities similar to the System.

"Current Operating Expenses" shall include but not be limited to, expenses for ordinary repairs, removals and replacements of the System, salaries and wages, employees' health, hospitalization, pension and retirement expenses, fees for services, materials and supplies, rents, administrative and general expenses (including legal, engineering, accounting and financial advisory fees and expenses and costs of other consulting or technical services not funded with proceeds of indebtedness), insurance expenses, taxes and other governmental charges, the imposition or amount of which is not subject to control of the Board or the City, any payments made by the Board during any fiscal year to purchase gas for delivery during or after the end of that fiscal year, and other payments made under any gas supply contract, and any principal or interest payments made by the Board during any fiscal year on bonds, notes or other obligations, including loan agreements, issued or entered into for the purpose of financing the purchase of gas, and to the extent so provided by the resolution authorizing such bonds, notes or obligations and to the extent not inconsistent with generally accepted accounting principles. Current Operating Expenses do not include depreciation or obsolescence charges or reserves therefor, amortization of intangibles or other bookkeeping entries of a similar nature, interest charges and charges for the payment of principal or amortization of bonded or other indebtedness of the Board or the City, on behalf of the Board, payable from revenues of the System, costs or charges made therefor, capital additions, replacements, betterments, extensions or improvements to or retirement from the System which under generally accepted accounting principles are properly chargeable to the capital account or the reserve for depreciation, and do not include losses from the sale, abandonment, reclassification, revaluation or other disposition of any properties of the System, nor such property items, including taxes and fuels, which are capitalized pursuant to the then existing accounting practices of the Board or expenses of a system that is merged into the System, as permitted hereunder, if revenues of the merged system are not included in Revenues at the election of the Board. If the Board operates its utilities as a Combined System, as defined herein, Current Operating Expenses shall be deemed to refer to the Current Operating Expenses of the Combined System.

"Debt Service" for any period shall mean, as of any date of calculation and with respect to the indebtedness with respect to which such calculation is being made, an amount equal to (i) the interest accruing during such period on such indebtedness plus (ii) the portion of each Principal Installment which would accrue during such period if such Principal Installment were deemed to accrue periodically in equal amounts from the next preceding Principal Installment due date for such indebtedness (or, if there shall be no such preceding Principal Installment due date, from a date of issuance of the indebtedness). For purposes of this definition:

(a) The principal and interest portions of the Accreted Value of Capital Appreciation Debt becoming due at maturity or by virtue of a Sinking Fund Installment shall be included in the calculations of accrued and unpaid and accruing interest or Principal Installments in such manner and during such period of time as is specified in the resolution authorizing such Capital Appreciation Debt.

(b) The annual principal and interest requirement on Short-Term Indebtedness shall be calculated as that amount necessary to amortize the Short-Term Indebtedness from the date it was issued over twenty (20) years in twenty (20) approximately equal annual payments of principal and interest using an assumed interest rate (which shall be the interest rate as of the date of issuance or the date of calculation, whichever is less, certified by a Financial Advisor to be the interest rate at which the City on behalf of the Board could reasonably expect to borrow the same amount by issuing indebtedness with the same priority of lien as such Balloon Indebtedness and with a 20-year term).

(c) With respect to any Variable Rate Indebtedness, including Hedged Indebtedness if the interest thereon calculated as set forth below is expected to vary, the interest coming due in any specified future period shall be determined as if the interest rate in effect at all times during such future period was, at the option of the Board, either (1) the average of the actual interest rates which were in effect (weighted according to the length of the period during which each such interest rate was in effect) for the most recent 12-month period immediately preceding the date of calculation for which such information is available (or shorter period if such information is not available for a 12-month period), or (2) the current average annual fixed rate of interest on securities of similar quality having a similar maturity date as certified by a Financial Advisor.

(d) With respect to any Hedged Indebtedness, the interest on such Hedged Indebtedness during any Hedge Period and for so long as the provider of the related Hedge Agreement has not defaulted on its payment obligations thereunder shall be calculated by adding (x) the amount of interest payable by the City or the Board on such Hedged Indebtedness pursuant to its terms and (y) the amount of Hedge Payments payable by the City or the Board under the related Hedge Agreement and subtracting (z) the amount of Hedge Receipts payable by the provider of the related Hedge Agreement at the rate specified in the related Hedge Agreement; provided, however, that to the extent that the provider of any Hedge Agreement is in default thereunder, the amount of interest payable by the City or the Board on the related Hedged Indebtedness shall be the interest calculated as if such Hedge Agreement had not been executed. In determining the amount of Hedge Payments or Hedge Receipts that are not fixed throughout the Hedge Period (i.e., which are variable), payable or receivable for any future period, such Hedge Payments or Receipts for any period of calculation (the "Determination Period") shall be computed by assuming that the variables comprising the calculation (e.g., indices) applicable to the Determination Period are equal to the average of the actual variables which were in effect (weighted according to the length of the period during which each such variable was in effect) for the most recent 12-month period immediately preceding the date of calculation for which such information is available (or shorter period if such information is not available for a 12-month period).

(e) With respect to Balloon Indebtedness (1) which is subject to a Commitment or (2) which does not have a Balloon Year commencing within 12 months from the date of calculation, such Balloon Indebtedness shall be assumed to be amortized in substantially equal annual amounts to be paid for principal and interest over an assumed amortization period of 20 years from the date of issuance at an assumed interest rate (which shall be the interest rate as of the date of issuance or the date of calculation, whichever is less, certified by a Financial Advisor to be the interest rate at which the City on behalf of the Board could reasonably expect to borrow the same amount by issuing indebtedness with the same priority of lien as such Balloon Indebtedness and with a 20-year term); provided, however, that if the maturity of such Balloon Indebtedness (taking into account the term of any Commitment) is in excess of 20 years from the date of issuance, then such Balloon Indebtedness shall be assumed to be amortized in substantially equal annual amounts to be paid for principal and interest over an assumed amortization period of years equal to the number of years from the date of issuance of such Balloon Indebtedness to maturity (including the Commitment) and at the interest rate provided above. For the purpose of calculating the Debt Service Requirement on Balloon Indebtedness (a) which are not subject to a Commitment and (b) which have a Balloon Year commencing within 12 months from the date of calculation, the principal payable on such Balloon Indebtedness during the Balloon Year shall be calculated as if paid on the Balloon Date.

(f) The principal of and interest on Parity Indebtedness and Hedge Payments shall be excluded from the determination of Debt Service to the extent that the same were or are expected to be paid with amounts on deposit on the date of calculation (or proceeds of indebtedness to be deposited on the date of issuance of any proposed Parity Indebtedness) in a fund established for such purpose.

"Financial Advisor" shall mean an investment banking or financial advisory firm or commercial bank who or which is retained by the Board for the purpose of passing on questions relating to the availability and terms of specified types of indebtedness and is actively engaged in and, in the good faith opinion of the Board, has a favorable reputation for skill and experience in underwriting or providing financial advisory services in respect of similar types of securities.

"Fiscal Year" shall mean the twelve month period beginning July 1 of each year and ending June 30 of the following year.

"Hedge Agreement" shall mean, without limitation, (i) any contract known as or referred to or which performs the function of an interest rate swap agreement, currency swap agreement, forward payment conversion agreement, or futures contract; (ii) any contract providing for payments based on levels of, or changes or differences in, interest rates, currency exchange rates, or stock or other indices; (iii) any contract to exchange cash flows or payments or series of payments; (iv) any type of contract called, or designed to perform the function of, interest rate floors, collars, or caps, options, puts, or calls, to hedge or minimize any type of financial risk, including, without limitation, payment, currency, rate, or other financial risk; and (v) any other type of contract or arrangement that the Board determines is to be used, or is intended to be used, to manage or reduce the cost of any indebtedness or other obligations, to convert any element of any indebtedness or other obligations from one form to another, to maximize or increase investment return, to minimize investment return risk, or to protect against any type of financial risk or uncertainty. A Hedge Agreement shall not include any commodity hedge agreement or similar arrangement. For purposes of Resolution No. R-25-88, as amended, a Hedge Agreement shall be deemed not to have any principal amount for purposes of obtaining consents or approvals of holders of Parity Indebtedness or for otherwise determining the amount of Outstanding Parity Indebtedness.

"Hedged Indebtedness" shall mean any indebtedness or other obligation for which the Board or the City, on behalf of the Board, shall have entered into a Qualified Hedge Agreement.

"Hedge Payments" shall mean amounts payable by the Board or the City, on behalf of the Board, pursuant to any Hedge Agreement, other than termination payments, fees, expenses, and indemnity payments.

"Hedge Period" shall mean the period during which a Hedged Agreement is in effect.

"Hedge Receipts" shall mean amounts payable by any provider of a Hedge Agreement pursuant to such Hedge Agreement, other than termination payments, fees, expenses, and indemnity payments.

"Maximum Annual Aggregate Debt Service" shall mean the maximum Aggregate Debt Service in the Fiscal Year during which such calculation is made or any future Fiscal Year.

"Net Revenues" shall mean Revenues, excluding any profits or losses on the sale or other disposition, not in the ordinary course of business, of investments or fixed or capital assets, less Current Operating Expenses.

"Outstanding Parity Indebtedness" shall mean any Parity Indebtedness that is outstanding under the resolution or other document under which such Parity Indebtedness is issued.

"Parity Indebtedness" shall mean bonds, notes, loan agreements, and other debt obligations, including Balloon Indebtedness, Short-Term Indebtedness, Variable Rate Indebtedness and Hedge Agreements (but only to the extent of Hedge Payments), issued by or entered into by the Board or by the City on behalf of the Board on a parity of lien under the Resolution in accordance with the restrictive provisions of the Resolution described herein, including any bonds, notes, loan agreements or other obligations secured by a pledge of and/or lien on a Merged System and the revenues derived from the operation of such Merged System, as defined herein, (provided such pledge and lien are subject only to normal and customary expenses of operating, maintaining, repairing and insuring any such System), so long as the Merged System is not being operated separately from the System as is permitted herein.

"Principal Installment" shall mean, as of the date of calculation and with respect to the indebtedness with respect to which the calculation is being made, (i) the principal amount of the indebtedness due on a certain future date for which no Sinking Fund Installments have been established, (ii) Sinking Fund Installment due on a certain future date for such indebtedness and (iii) if such future dates coincide, the sum of such principal amount and any such Sinking Fund Installment.

"Qualified Hedge Provider" shall mean an entity whose senior unsecured long term obligations, financial program rating, counterparty rating, or claims paying ability, or whose payment obligations under the related Hedge Agreement are absolutely and unconditionally guaranteed or insured or collateralized by an entity whose senior unsecured long term obligations, financial program rating, counterparty rating, or claims paying ability, are rated either (i) at least as high as "A" or better by Standard & Poor's' Rating Group (or any successor thereto) ("S&P") or "A2" or better by Moody's Investors Services, Inc. (or any successor thereto) ("Moody's") (the "Initial Rating Requirement") and such entity maintains a rating on its debt or claims paying ability of not less than "A-" from S&P or "A3" from Moody's (the "Minimum Rating Requirement"); provided that this requirement shall be deemed to have been met, even if the rating of such entity is reduced below the Minimum Rating Requirement, if such entity is replaced with an entity meeting the Initial Rating Requirement within twenty business days from when the Board receives notice that the Minimum Rating Requirement has not been met. An entity's status as a Qualified Hedge Provider is made as of the time the applicable calculation is made.

"Revenues" shall mean all revenues, rentals, earnings and income of the System from whatever source, determined in accordance with generally accepted accounting principles, including all revenues derived from the operation of the System; proceeds from the sale of property; proceeds of insurance and condemnation awards and compensation for damages, to the extent not applied to the payment of the cost of repairs, replacements and improvements; and all amounts realized from the investment of money in the accounts and funds of the System (excluding any investment earnings from construction or improvement funds created for the deposit of bond, note, or loan agreement proceeds pending use, to the extent such income is applied to the purposes for which the bonds, notes or loan agreement were issued, and funds created to refund any outstanding obligations payable from Revenues of the System) and at the election of the Board, shall not include any rates, fees, rentals or other charges or other income received by the Board from the operation of a Merged System.

"Short-Term Indebtedness" shall mean bonds, notes or other obligations, including Variable Rate Indebtedness, maturing five (5) years or less from their date of issuance which are issued in anticipation of the issuance of revenue bonds the proceeds of which will be used to pay the Short-Term Indebtedness.

"Sinking Fund Installment" shall mean, as of any particular date of calculation, the amount required to be paid on a certain future date for the retirement of Outstanding Parity Indebtedness which mature after said future date, but does not include any amount payable by reason of the maturity of an Outstanding Parity Indebtedness or by call for redemption at the election of the Board or the City on behalf of the Board.

"Valuation Date" shall mean with respect to any Capital Appreciation Indebtedness, the date or dates set forth in the resolution authorizing such Capital Appreciation Bonds on which specific Accreted Values are assigned to the Capital Appreciation Bonds.

"Variable Rate Indebtedness" shall mean any bonds, notes or other obligations of the Board or the City, on behalf of the Board, the interest rate on which is subject to periodic adjustment, at intervals, at such times and in such manner as shall be determined by the resolution authorizing such indebtedness, provided that if the interest rate shall have been fixed for the remainder of the term thereof (including a fixed rate pursuant to a Hedge Agreement with a Qualified Hedge Provider), it shall no longer be Variable Rate Indebtedness.

## Pledge of Revenues

The Bonds issued under and pursuant to the Resolution provides that the punctual payment of principal and premium, if any, and interest on all Parity Indebtedness and Hedge Payments with respect to Parity Indebtedness shall be payable from and secured equally and ratably by the Net Revenues of the System, without priority by reason of number or time of sale or execution or delivery and such Net Revenues are irrevocably pledged to the punctual payment of such principal, premium, interest and Hedge Payments as the same become due.

## Additional Indebtedness

The Series W-2017 Bonds are issued in compliance with the Resolution so as to be on a parity with the Outstanding Parity Indebtedness, and, when duly delivered, the Series W-2017 Bonds shall constitute a series of Parity Indebtedness issued under the authority of the Resolution.

The City has covenanted that it will incur no indebtedness payable from the revenues of the Gas System having priority over the Series W-2017 Bonds.

No additional indebtedness (herein called the "Parity Indebtedness") payable out of the Gas Fund shall be created unless:

(a) All payments required to be made to the Debt Service Fund and into any reserve fund which may be required under resolutions authorizing Parity Indebtedness are current as of the date of issuance of the additional bonds, notes or other obligations, additional bonds, notes or other obligations may be issued or entered into by the City or the Board on a parity and equality of lien with the Outstanding Parity Indebtedness with respect to the lien and claim of such additional bonds, notes or other obligations to the net revenues of the System and the money on deposit in the Debt Service Fund for the following purposes and under the following conditions, but not otherwise:

(i) For the purpose of refunding any Outstanding Parity Indebtedness, subordinate bonds, notes, loan agreements or other obligations, provided that after the issuance of such additional Parity Indebtedness, the Aggregate Debt Service on all Outstanding Parity Indebtedness, including the additional Parity Indebtedness to be issued, in any Fiscal Year shall not increase by more than ten percent (10%) after the issuance of such additional Parity Indebtedness.

(ii) For the purpose of financing the completion or equipping of improvements to the System for which Outstanding Parity Indebtedness have previously been issued but only to the extent necessary to complete such improvements in the manner contemplated at the time of the issuance of the Outstanding Parity Indebtedness that financed such improvements.

(iii) For the purposes of refunding any Outstanding Parity Indebtedness or any Prior Lien Bonds, subordinated bonds, notes or other obligations or extending, improving or replacing the System or for any other lawful purposes under applicable law, if one of the following conditions shall have been met: (A) the Net Revenues for any twelve-month period selected by the Board ending within the twelve months prior to the date of the issuance of the additional Parity Indebtedness must have been equal to at least 120% of the Maximum Annual Aggregate Debt Service on Outstanding Parity Indebtedness plus the Debt Service on the additional Parity Indebtedness proposed to be issued or (B) the estimated Net Revenues of the System for each of the three Fiscal Years next succeeding the issuance of the additional Parity Indebtedness, must be equal at least to 120% of Maximum Annual Aggregate Debt Service on the Notes, any other Outstanding Parity Indebtedness and all outstanding Prior Lien Bonds plus the Debt Service on the additional Parity Indebtedness proposed to be issued; provided, however, that if the additional Parity Indebtedness is to be issued for the acquisition or construction of any extension, improvement or replacement to the System, then the estimate of Net Revenues may be for the three Fiscal Years ensuing after the time that such improvement, extension or replacement is expected to be placed in service.

(iv) For the purpose of entering into a Hedge Agreement with a Qualified Hedge Provider with respect to Outstanding Parity Indebtedness but only to the extent of Hedge Payments.

(b) In calculating Net Revenues, Debt Service and Maximum Annual Aggregate Debt Service for all purposes under the Resolution, the following adjustments and assumptions shall be made:

(i) In calculating Net Revenues on a historical basis, the amount of such Net Revenues may be adjusted to take into account any rate increase adopted by the Board that is effective prior to the date of such calculation.

(ii) In calculating projected Net Revenues for any period in the future, the amount of such Net Revenues may be adjusted to take into account any rate increase adopted by the Board that is to be effective within one year of the date of such calculation, and if such calculation is being made in connection with the issuance of Parity Indebtedness, the Net Revenues may be calculated based upon the assumption that any improvements financed with proceeds of the Parity Indebtedness will be completed within a time period established in a report of a Consulting Engineer.

(c) Any calculation or projection of Net Revenues described above, whether for a historical period or for a future period, shall be set forth in a certificate of the President and Chief Executive Officer and Chief Financial Officer of the Board. If the calculation is made as to a future period, a Consulting Engineer shall state in a report that the assumptions underlying any projections of the Board as to Net Revenues are reasonable. Any calculation of the Maximum Annual Aggregate Debt Service shall also be set forth in a certificate of the President and Chief Executive Officer and Chief Financial Officer of the Board, which certificate shall be accompanied by a certificate of a financial advisory firm to the effect that the calculation of Maximum Annual Aggregate Debt Service is correct and is in compliance with the terms of the Resolution, but such certificate of the financial advisory firm shall only be required if Variable Rate Indebtedness, Balloon Indebtedness or Short-Term Indebtedness must be taken into account in the calculation of Maximum Annual Aggregate Debt Service.

(d) Any obligation of the Board to pay amounts under a Hedge Agreement other than Hedge Payments, including a termination payment upon the termination of a Hedge Agreement, shall be a subordinate obligation to the obligations with respect to Parity Indebtedness.

Collection of Revenues

All revenues which will be received by the City from the System shall be deposited in a separate fund, which shall be kept separate and distinct from all other funds of the City, and which is designated as the "Gas Fund."

Disposition of Revenues

As long as any Parity Indebtedness shall be outstanding and unpaid either as to principal or as to interest, or until the discharge and satisfaction of the Parity Indebtedness as provided in the resolution authorizing said Parity Indebtedness, the entire income and revenues of the System shall be deposited as collected in the Revenue Fund established by the Resolution (the "Revenue Fund"), to be administered and controlled by the Board. The income and revenues deposited therein shall be used only as follows:

(a) The money in the Revenue Fund shall be disbursed first from month to month for the payment of Current Operating Expenses.

(b) The money remaining in the Revenue Fund, after payment of Current Operating Expenses, shall next be used to make deposits into a separate and special fund, to be known as the Debt Service Fund (the "Debt Service Fund"), to be kept separate and apart from all other funds of the Board and used to pay principal of and interest on Parity Indebtedness and Hedge Payments (net of Hedge Receipts) with respect thereto as the same become due, either by maturity or mandatory redemption. Such deposits shall be made monthly, or as otherwise set forth herein or in the resolution authorizing such Parity Indebtedness or Hedged Payments, until all Parity Indebtedness is paid in full or discharged and satisfied. Unless otherwise authorized in the resolution authorizing any Parity Indebtedness, for the period commencing with the month next following the delivery of the Parity Indebtedness, each monthly deposit shall be an amount that, together with all other monthly deposits of approximately equal amounts during such period and amounts otherwise in said Fund, will be equal to principal due on the Parity Indebtedness on the next principal payment date, divided by the number of months from and including the month of the first such deposit to and including the months preceding the next principal payment date; provided that, if the next principal payment date is more than 13 months following the month next following the delivery of the Parity Indebtedness, such monthly deposits to the Debt Service Fund shall commence in the month that is 13 months prior to the month of the next principal payment date. Furthermore, during such period, there shall be deposited to the Debt Service Fund monthly an amount equal to one-sixth (1/6) of the interest coming due on the next interest payment date for Parity Indebtedness (unless otherwise specified in the resolution authorizing such Parity Indebtedness).

In each month thereafter, each monthly deposit shall consist of an interest component and a principal component except as provided above. If interest is payable semi-annually, then the interest component shall be an amount equal to not less than one-sixth (1/6th) of the interest coming due on any Parity Indebtedness on the next succeeding interest payment date, unless otherwise specified in the resolution authorizing such Parity Indebtedness. Unless otherwise specified in the resolution authorizing

Parity Indebtedness, the principal component shall be an amount which shall be established annually on each July 1 for all payments to be made during the ensuing twelve-month period commencing in July of each calendar year and ending in June of the following calendar year and shall be not less than one-twelfth (1/12) of the principal amounts, as the case may be, coming due, whether by maturity or mandatory redemption, on the Parity Indebtedness then outstanding during such twelve-month period. No further deposit shall be required when the Debt Service Fund balance is equal to or greater than the amount needed to pay interest coming due on the next interest payment date and the total of the principal amounts payable, either by maturity or mandatory redemption, during the applicable twelve-month period. Money in the Debt Service Fund shall be used solely and is expressly and exclusively pledged for the purpose of paying principal of and interest on Parity Indebtedness. Notwithstanding the foregoing, deposits for the payment of principal and interest on Variable Rate Indebtedness or Hedge Payments shall be made as set forth in the resolution authorizing such Variable Rate Indebtedness or Hedge Payments.

(c) The next available money in the Revenue Fund shall be paid to any issuer of an insurance policy, surety bond, letter of credit or similar instrument (a "Reserve Fund Credit Facility") (pro rata, if more than one) to the extent needed to reimburse the issuer for any amounts advanced under the Reserve Fund Credit Facility, including any amounts payable under any guaranty agreement relating to such amounts, together with reasonable related expenses incurred by the issuer of such Reserve Fund Credit Facility and any interest relating to such amounts.

(d) The next available money in the Revenue Fund shall be deposited to any reserve fund created pursuant to any resolution authorizing Parity Indebtedness in the manner provided in such resolution.

(e) The next available money in the Revenue Fund shall be used to pay liquidity fees, remarketing agent fees and similar fees that are payable in connection with the issuance of Parity Indebtedness.

(f) The next available money in the Revenue Fund shall be used for the payment of all other payments to be made under the Parity Indebtedness not provided for in the preceding subsections including payments in connection with Hedge Agreements that are not Hedge Payments, including termination payments.

(g) The next available money in the Revenue Fund shall be used for the purpose of making payments in lieu of taxes and, to the extent not so used, may be used for any lawful purpose, including such reserve funds and other funds as the Board deems necessary and appropriate.

(h) Money on deposit in the Funds described above may be invested by the Board in such investments as shall be permitted by applicable law, as determined by an authorized representative of the Board, all such investments to mature not later than the date on which the money so invested shall be required for the purpose for which the respective Fund was created. All income derived from such investments shall be regarded as revenues of the System and shall be deposited in the Revenue Fund. Such investments shall at any time necessary be liquidated and the proceeds thereof applied to the purpose for which the respective Fund was created. The Board is authorized to enter into contracts with third parties for the investment of funds in any of the Funds described herein.

(i) The Revenue Fund and the Debt Service Fund shall be held and maintained by the Board and, when not invested, kept on deposit with a bank or financial institution regulated by and the deposits of which are insured by the Federal Deposit Insurance Corporation or similar federal agency. All moneys in such Funds so deposited shall at all times be secured to the extent and in the manner required by applicable State law.

## Rate Covenant

The City shall maintain the System in good condition and will operate the System in an efficient and economical manner, and the City will fix rates and collect charges for gas and for the services, facilities and commodities furnished by the System so as to provide revenues sufficient to pay, as the same shall become due, the principal of and interest on the Bonds, in addition to paying as the same shall become due the necessary expenses of operating and maintaining the System and all other obligations and indebtedness that are payable out of the revenues of the System, which obligations and indebtedness are a charge against said revenues equally and ratably with the charge of the Bonds.

## Discharge and Satisfaction of the Bonds

If the Board, on behalf of the City, shall pay and discharge the indebtedness evidenced by any of the Series W-2017 Bonds (referred to hereinafter collectively in this Section as the "Bonds") in any one or more of the following ways:

(a) By paying or causing to be paid, by deposit of sufficient funds as and when required with the Registration Agent, the principal of and interest on such Bonds as and when the same become due and payable;

(b) By depositing or causing to be deposited with any financial institution which has trust powers and which is regulated by and the deposits of which are insured by the Federal Deposit Insurance Corporation or similar federal agency ("an Agent"; which Agent may be the Registration Agent), in trust or escrow, on or before the date of maturity or redemption, sufficient money or Defeasance Obligations, the principal of and interest on which, when due and payable, will provide sufficient moneys to pay or redeem such Bonds and to pay premium, if any, and interest thereon when due until the maturity or redemption date (provided, if such Bonds are to be redeemed prior to maturity thereof, proper notice of such redemption shall have been given or adequate provision shall have been made for the giving of such notice); or

(c) By delivering such Bonds to the Registration Agent, for cancellation by it;

and if the Board, on behalf of the City, shall also pay or cause to be paid all other sums payable under the Resolution by the Board or the City with respect to such Bonds or make adequate provision therefor, and by resolution of the Board instruct any such Agent to pay amounts when and as required to the Registration Agent for the payment of and interest and redemption premiums, if any, on such Bonds when due, then and in that case the indebtedness evidenced by such Bonds shall be discharged and satisfied and all covenants, liens, pledges, agreements and obligations entered into, created or imposed hereunder, including the pledge of and lien on the net revenues of the System set forth herein, shall be fully discharged and satisfied with respect to such Bonds and the owners thereof and shall thereupon cease, terminate and become void.

If the Board, on behalf of the City, shall pay and discharge or cause to be paid and discharged the indebtedness evidenced by any of the Bonds in the manner provided in either clause (a) or clause (b) above, then the registered owners thereof shall thereafter be entitled only to payment out of the money or Defeasance Obligations deposited as aforesaid.

Except as otherwise provided in the Resolution, neither Defeasance Obligations nor moneys deposited with the Registration Agent nor principal or interest payments on any of such Defeasance Obligations shall be withdrawn or used for any purpose other than, and shall be held in trust for, the payment of the principal and premium, if any, and interest on said Bonds; provided that any cash received from such principal or interest payments on any such Defeasance Obligations deposited with the Registration Agent, (A) to the extent such cash will not be required at any time for such purpose, shall be paid over to the Board as received by the Agent and (B) to the extent such cash will be required for such purpose at a later date, shall, to the extent practicable, be reinvested in Defeasance Obligations maturing at times and in amounts sufficient to pay when due the principal and premium, if any, and interest to become due on said Bonds on or prior to such redemption date or maturity date thereof, as the case may be, and interest earned from such reinvestments, to the extent not needed for the payment of such principal, premium and interest, shall be paid over to the Board, as received by the Agent. For the purposes described herein, Defeasance Obligations shall mean direct obligations of, or obligations, the principal of and interest on which are guaranteed by, the United States of America, or any agency thereof, obligations of any agency or instrumentality of the United States or any other obligations at the time of the purchase thereof are permitted investments under Tennessee Law for the purposes described in this Section, which bonds or other obligations shall not be subject to redemption prior to their maturity other than at the option of the registered owner thereof.

Nothing contained in this Section shall be construed to alter or change the redemption provisions relating to the Series W-2017 Bonds. No redemption privilege shall be exercised with respect to the Series W-2017 Bonds or any Parity Bonds except at the option and election of the Board. The right of redemption set forth herein shall not be exercised by any Registration Agent or Agent unless expressly directed in writing by an authorized representative of the Board.

## Sale of Gas System

Except as expressly authorized by the Resolution, the City shall not sell, mortgage, lease or otherwise dispose of the System or any substantial port thereof, unless consent to such transaction is given by the holders of at least sixty-five per centum (65%) in the aggregate principal amount of the outstanding Bonds (exclusive of issuer-owned Bonds). However, the City shall have, and reserves the right to sell, lease or otherwise dispose of any of the property comprising a part of the System determined to be no longer necessary and useful in the operation thereof, which is found, by the Board, or such other body as may be authorized to manage and operate the System, not to be both useful and necessary for the continued operation of the System substantially as it now exists; and prior to any such sale, lease or other disposition of said property, the Board, or such other body as may be hereafter authorized to manage and operate the System, shall by resolution duly adopted, have made said finding and authorized such sale, lease or other disposition of the property. Also, the City shall have the right to sell, lease, transfer or otherwise dispose of the System as a whole or substantially as a whole, to any municipal corporation, county, political subdivision, governmental corporation or governmental agency (each of which shall be included within the term "Transferee" as used herein), provided the Transferee thus acquiring the system from the City will assume the performance of and be bound by all of the City's obligations to the holders of the Bonds to make the payments into the Gas Bond Fund and to pay the principal of and interest on the Bonds as provided in the covenants and provisions of the Resolution.

## Insurance

Except to the extent that the Board reasonably determines that it is economically advisable to carry such risks, the City will carry adequate fire and windstorm insurance on buildings of the System and provide for adequate public liability insurance, and the City will also carry such other insurance as is ordinarily carried by utility companies privately or municipally owned and doing a similar business in Tennessee or adjacent states.

## Audits

The City will cause proper books and accounts adapted to the System to be kept and will cause the books and accounts with respect to the System to be audited annually by an independent firm of certified public accountants, and will make generally available to Bondholders the balance sheet and the profit and loss statement of the System as certified by such accountants.

## Appointment of Receiver

Any holder of the Bonds, including a trustee or trustees for such holders, shall, in addition to all other remedies and rights of holders of any of the Bonds, have the right, by appropriate proceedings in any court of competent jurisdiction, in the event of default in the payment of the principal of or interest on the Bonds, to obtain the appointment of a receiver for the System, which receiver may enter upon and take possession of the System, operate and maintain the System, fix rates and collect all revenues arising therefrom in as full a manner and to the same extent as the City itself might do. The receiver shall deposit all moneys collected by him in a separate account or accounts and shall dispose of such revenues in accordance with the terms and conditions of the Resolution and as the court shall direct.

## Consent of Bondholders

Any act consented to by the holders of sixty-five per centum (65%) in the aggregate principal amount of the outstanding Bonds (exclusive of issuer-owned Bonds) in the manner provided in the Resolution, shall not be deemed an infringement of any of the covenants described above, whatever the character of such act may be, except the covenant of the City to pay the principal of and interest on the Bonds as the same shall fall due.

## Interest Rate Hedging

If the City or the Board enters into an interest rate swap or other interest rate hedging transaction with respect to the payment of interest with respect to the Bonds or Parity Indebtedness, the amounts that the City or the Board pays or receives under such interest rate swap or other hedging transaction shall be taken into account in determining interest or the interest requirements on such Bonds or Parity Indebtedness for all purposes under the Resolution. Such payments shall be made or such funds received at such times and in such amounts as shall be established by a supplemental resolution authorizing the interest rate swap or other hedging transaction. In the case of variable rate issues in which financial covenants are based on the synthetic fixed rate under a swap, utilization of the synthetic fixed rate under a swap for purposes of performing any required calculations under the applicable legal documentation shall be permitted only if such documentation and the applicable swap satisfy the following requirements:

(i) The swap provider must be rated least A-/A3 or better by Standard & Poor's and Moody's (the "Initial Rating Requirement").

(ii) Assuming satisfaction of the Initial Rating Requirement, and thereafter as long as the long-term indebtedness of the swap provider or the claims paying ability of the swap provider does not fall below Baa2 or BBB by either Standard & Poor's or Moody's (the "Minimum Rating Requirement"), all interest rate assumptions for purposes of establishing or demonstrating compliance with financial covenants (e.g., rate covenant, reserve requirement, additional bonds test) may be based upon the synthetic fixed interest rate under the swap.

(iii) Failure to maintain a swap provider holding the Minimum Rating Requirement or, if the issuer elects, failure to replace any such swap provider by another swap provider which holds the Initial Rating Requirement within ten business days, will have the following effects: (1) compliance with any required rate covenant for the preceding Fiscal Year will be based on the actual interest paid on the Variable Rate Indebtedness during such Fiscal Year without regard to the swap; and (2) any "forward-looking" financial covenant based upon debt service will be based upon the variable rate.

(iv) For short-dated swaps having terms or weighted average maturities of ten years or less, whereupon related bonds automatically convert to a pre-set fixed rate, the embedded swap provider must meet the Initial Rating Requirement. With respect to financial covenants, the synthetic fixed rate based on the swap may be utilized for purposes of demonstrating or establishing compliance with the applicable covenant. Failure to maintain a swap provider holding the Minimum Rating Requirement during the embedded swap period will require replacement of the Swap provider within ten business days. Failure to replace will require re-calculation of the applicable financial covenants as described above.

Separate Systems

Nothing contained in the Resolution shall prevent the Board from acquiring a separate gas transmission or distribution system or any combination thereof, or any other system, facilities or equipment which municipalities in Tennessee operating gas distribution systems are authorized to own, operate or finance, and nothing herein shall prevent the issuance of bonds, notes, warrants, certificates or other obligations or evidences of indebtedness, to acquire any such system or facilities. Any facilities or system acquired by the Board, at the election of the Board, may be operated as a separate and independent system or be merged into the System and operated as a single unified system with the System (the "Merged Systems"). Revenues of the Merged Systems may be commingled without keeping separate accounts of the funds of each of the systems, provided all Revenues of the Merged Systems are applied in accordance with the Resolution, including the payment of principal of and interest on all bonds, notes or other obligations of the acquired system. All Outstanding Parity Indebtedness and any bonds, notes and other obligations of the acquired system outstanding upon the merger of the systems designated by the Board may be payable from revenues of the Merged Systems on a parity and equality of lien with each other, provided the Net Revenues of the Merged Systems, for a period of twelve consecutive months (hereinafter sometimes called the "Twelve-Month Period") out of the eighteen months immediately preceding the merger of the systems shall be equal to at least 1.2 times the Maximum Annual Aggregate Debt Service on all Outstanding Parity Indebtedness, all bonds, notes and obligations of the acquired system then outstanding and any additional indebtedness to be then issued; or if within twelve months prior to any such calculation, the Board shall have put into effect a revised schedule of rates for the Merged Systems or any part thereof, then the Net Revenues of the Merged Systems, as certified by a Consulting Engineer or Financial Adviser, that would have resulted from such revised rates had they been in effect for the Twelve-Month Period, may be used in lieu of the actual Net Revenues for such Twelve-Month Period.

Combined Systems

Notwithstanding anything elsewhere in the Resolution, nothing contained therein shall prevent the Board from combining any or all of the Board's utility systems into a single unified operation (the "Combined System") and commingling the revenues of the systems so combined in the Combined System without keeping separate accounts of the funds of each of such systems, provided payments from the funds of the Combined System are required to be made into the Debt Service Fund created under the Resolution from time to time in amounts sufficient to comply with provisions thereof and in amounts sufficient to pay the principal of and interest on the Outstanding Parity Indebtedness as such principal and interest becomes due. Bonds, notes and other obligations ("Parity Combined System Obligations") payable from revenues of the Combined System may be issued on a parity with Outstanding Parity Indebtedness provided at the time of the issuance of any such Parity Combined System Obligations, the following conditions have been complied with. The Net Revenues of the Combined System, for a period of twelve consecutive months (hereinafter sometimes called the "Combined Twelve-Month Period") out of the eighteen months immediately preceding the issuance of such Parity Combined System Obligations shall be equal to at least 1.2 times the Maximum Annual Aggregate Debt Service on all Outstanding Parity Indebtedness and the obligations proposed to be issued; or if within twelve months prior to the issuance of the Parity Combined System Obligations a revised schedule of rates for the Combined System or any part thereof shall have been put into effect, then the Net Revenues of the Combined System for the Twelve-Month Period, as certified by a Consulting Engineer or Financial Adviser, that would have resulted from such revised rates had they been in effect for the Twelve-Month Period, may be used in lieu of the actual Net Revenues for such Twelve-Month Period.

## Amendment of Resolution

The Resolution may be amended without the consent of or notice to the holders of the Parity Indebtedness for the purposes of (i) curing any ambiguity or formal defect or omission in the Resolution; (ii) making such amendments as are necessary to prevent interest on any Parity Indebtedness from being included in gross income of the holders thereof for federal income tax purposes; (iii) adding to the covenants and agreements of the City or the Board or surrendering or limiting any right or power of the City or the Board; or (iv) making such amendments as are necessary for any Parity Indebtedness to be held or continue to be held in book-entry form.

In addition to the amendments to the Resolution without the consent of the holders as referred to above, the Resolution may be amended from time to time if such amendment shall have been consented to by the holders of not less than a majority in principal amount of Outstanding Parity Indebtedness (not including in any case any Bonds or Parity Indebtedness which may then be held or owned by or for the account of the City or Board); but the Resolution may not be so amended (without the consent of all affected holders of Outstanding Parity Indebtedness) in such manner as to:

(a) make any change in the maturity or interest rate (other than in accordance with its terms) of the Parity Indebtedness, or modify the terms of payment of principal of or interest on Parity Indebtedness or impose any conditions with respect to such payment; or

(b) to make any Parity Indebtedness redeemable other than in accordance with its terms; or

(c) to create a preference or priority of any Parity Indebtedness over any other Parity Indebtedness; or

(d) reduce the percentage of the principal amount of Parity Indebtedness the consent of the holders of which is required to effect a further amendment.

Whenever the City shall propose to amend the Resolution as provided in the Resolution, the Board shall cause notice of the proposed amendment to the holders of the Parity Indebtedness by sending a summary of such proposed amendment to such holders and shall state that a copy of the proposed amendatory resolution is on file in the office of the Secretary of the Board. The holders of Parity Indebtedness shall be determined by the registration records of the City or the Board or any registration agent therefor or in such other manner as is commercially reasonable.

Whenever at any time within one year from the date of the mailing of such notice there shall be filed with the Secretary an instrument or instruments executed by the holders of at least a majority aggregate principal amount of the Outstanding Parity Indebtedness, which instrument or instruments shall refer to the proposed amendatory resolution described in such notice and shall specifically consent to and approve the adoption thereof, then the Board and/or the City may adopt such amendatory resolution and such resolution shall become effective and binding upon the holders of all Parity Indebtedness.

Any consent given by the holder of Parity Indebtedness shall be irrevocable for a period for one year from the date of the instrument evidencing such consent and shall be conclusive and binding upon all future holders of the same Parity Indebtedness during such period. Such consent may be revoked at any time after one year from the date of such instrument by the holder who gave such consent or by a successor in title by filing notice of such revocation with the Secretary.

For purposes of determining the aggregate principal amount of Parity Indebtedness outstanding under the Resolution and whether the holders of a sufficient percentage in aggregate principal amount of Bonds and Parity Indebtedness have consented to any amendment, the Board may make such determination at any time while a request for consents to such amendment is outstanding and may include any Parity Indebtedness issued during such period in making such determination. The Accreted Value of any Capital Appreciation Debt as of the time of any such determination shall be used in making any such determination.

The fact and date of the execution of any instrument may be proved by the certificate of any officer in any jurisdiction who by the laws thereof is authorized to take acknowledgments of deeds within such jurisdiction, that the person signing such instrument acknowledged before him the execution thereof, or may be proved by an affidavit of a witness to such execution sworn to before such officer. In the event that any Parity Indebtedness is held in book-entry form, any consent to an amendment may be executed by any beneficial owner of such Parity Indebtedness, which beneficial ownership may be proved by an affidavit of the beneficial owner.

Notwithstanding anything in the Resolution to the contrary, the Board and/or the City may adopt amendments to the Resolution that do not become effective until the payment or defeasance of any Parity Indebtedness outstanding on the date such amendments are adopted.

### Amendments to Resolution No. R-25-88 Not Yet Effective

The following amendments will become effective only upon the defeasance or payment in full of principal of and interest on the Outstanding Bonds (other than the Series P-2010 Bonds, Series Q-2012 Bonds, Series R-2012 Bonds, Series S-2013 Bonds, Series T-2014 Bonds, Series U-2015 Bonds, Series V-2016 Bonds and Series W-2017 Bonds) or upon receipt of the necessary consents of holders of outstanding Bonds under Resolution No. R-25-88, which may include the holders of the Series W-2017 Bonds. Certain of the amendments described below amend and replace the corresponding provisions summarized above.

(a) The following subparagraph shall be added to the definition of "Debt Service" at the end of such definition:

> (G) In calculating the Debt Service on any Parity Indebtedness or proposed Parity Indebtedness with respect to which the federal government or any agency thereof is or is expected to be obligated to make tax refunds or other payments to the City or the Board for the purpose of reducing the interest costs associated therewith, the Board may offset any stated interest payment on such Parity Indebtedness or proposed Parity Indebtedness by the amount of the scheduled tax refund or other payment corresponding thereto.

(b) The following sentence shall be added to the definition of "Revenues" at the end of such definition:

"Revenues" shall also not include any payments to the Board with respect to which an adjustment to Debt Service has been made pursuant to the subparagraph (G) of the definition of Debt Service.

(c) The following subsection shall be added to Section of the Resolution summarized under the heading "Application of Revenues":

> (k) Notwithstanding the foregoing, the Board may deposit any amounts described in the subparagraph (G) of the definition of Debt Service directly into the Debt Service Fund at the Board's option.

APPENDIX I

# SUMMARY OF CERTAIN PROVISIONS
# OF
# WATER BOND RESOLUTION

# SUMMARY OF CERTAIN PROVISIONS
# OF THE WATER BOND RESOLUTIONS

The following statements are brief summaries of certain provisions of the Water Bond Resolutions, copies of which are available for examination at the offices of the Board. Terms defined in the Water Bond Resolutions and not defined elsewhere in this Official Statement shall have the meaning set forth in the Water Bond Resolutions. Section numbers refer to sections of Resolution No. 2075, as amended by Resolution No. 3633, Resolution No. R-26-88, Resolution No. R-8-98 and Resolution No. R-151-01 and as supplemented by Resolution No. R-___-2017 and as otherwise supplemented prior to the date hereof (collectively, the "Resolution").

## Security

The Series FF-2017 Bonds constitute and, when issued, will be Bonds under the Resolution. All Series FF-2017 Bonds are limited obligations of the City, payable solely and ratably from the Net Revenues of the Water System of the City and are on parity with each other in all respects.

The Series FF-2017 Bonds will be issued pursuant to the provision of the Resolution which sets forth in detail covenants of the City with respect to the Series FF-2017 Bonds. The following summary is a brief outline of certain provisions contained in the Resolution and is not to be considered as a full statement thereof. This summary is qualified by reference to and is subject to the Resolution, copies of which may be examined at the office of the Board.

## Pledge of Revenues

The Bonds issued under and pursuant to the Resolution shall not be general obligations of the City, and no holder of any Bond issued under the Resolution shall ever have the right to compel any exercise of taxing power of the City to pay said Bonds or the interest thereon. The punctual payment of principal and premium, if any, and interest on all Parity Indebtedness and Hedge Payments with respect to Parity Indebtedness shall be payable from and secured equally and ratably by the Net Revenues of the System, without priority by reason of number or time of sale or execution or delivery and such Net Revenues are irrevocably pledged to the punctual payment of such principal, premium, interest and Hedge Payments as the same become due.

## Certain Definitions

"Accreted Value" shall mean, with respect to any Capital Appreciation Debt, an amount equal to the principal amount of such Capital Appreciation Debt (determined on the basis of the principal amount per $5,000 at maturity thereof) plus the amount assuming semi-annual compounding of earnings which would be produced on the investment of such principal amount, beginning on the dated date of such Capital Appreciation Debt and ending at the date such Accreted Value is calculated, at a yield which, if produced until maturity, will produce $5,000 at maturity. As of any Valuation Date, the Accreted Value of any Capital Appreciation Debt shall mean the amount set forth for such date in the resolution authorizing such Capital Appreciation Debt, which amount shall be required to be determined in the manner described above, and as of any date other than a Valuation Date, the sum of (a) the Accreted Value on the preceding Valuation Date and (b) the product of (1) a fraction, the numerator of which is the number of days having elapsed from the preceding Valuation Date and the denominator of which is the number of days from such preceding Valuation Date to the next succeeding Valuation Date and (2) the difference between the Accreted Values for such Valuation Dates.

"Aggregate Debt Service" for any period shall mean, as of any date of calculation, the sum of the amounts of Debt Service for such period with respect to all indebtedness with respect to which such calculation is required to be made for such period.

"Balloon Date" shall mean any maturity date for Balloon Indebtedness in a Balloon Year.

"Balloon Indebtedness" shall mean any bonds, notes or other indebtedness of the Board or the City, on behalf of the Board, other than Short-Term Indebtedness, twenty-five percent or more of the initial principal amount of which matures (or must be redeemed at the option of the holder) during any twelve month period, if such twenty-five percent or more is not to be amortized to below twenty-five percent by mandatory redemption prior to the beginning of such twelve month period.

"Balloon Year" shall mean any 12-month period in which more than 25% of the original principal amount of related Balloon Indebtedness matures or is subject to mandatory redemption by the Authority.

"Capital Appreciation Debt" shall mean any bonds, notes or other indebtedness of the Board or of the City on behalf of the Board as to which interest is payable only at the maturity or prior redemption of such bonds.

"Commitment," when used with respect to Balloon Indebtedness, shall mean a binding written commitment from a financial institution, surety, or insurance company to refinance such Balloon Indebtedness on or prior to any Balloon Date thereof.

"Consulting Engineer" shall mean (i) an engineering firm or individual engineer employed by the Board with substantial experience in advising utilities similar to the System operated by the Board as to the construction and maintenance of the System and in the projection of relative costs of expansion in the System or (ii) an engineer or engineers who are employees of the Board whose reports or projections are certified by a financial advisor with substantial experience in advising utilities similar to the System.

"Current Operating Expenses" shall include but not be limited to, expenses for ordinary repairs, removals and replacements of the System, salaries and wages, employees' health, hospitalization, pension and retirement expenses, fees for services, materials and supplies, rents, administrative and general expenses (including legal, engineering, accounting and financial advisory fees and expenses and costs of other consulting or technical services not funded with proceeds of indebtedness), insurance expenses, taxes and other governmental charges, the imposition or amount of which is not subject to control of the Board or the City, any payments made by the Board during any fiscal year to purchase water for delivery during or after the end of that fiscal year, and other payments made under any water supply contract, and any principal or interest payments made by the Board during any fiscal year on bonds, notes or other obligations, including loan agreements, issued or entered into for the purpose of financing the purchase of water, and to the extent so provided by the resolution authorizing such bonds, notes or obligations and to the extent not inconsistent with generally accepted accounting principles. Current Operating Expenses do not include depreciation or obsolescence charges or reserves therefor, amortization of intangibles or other bookkeeping entries of a similar nature, interest charges and charges for the payment of principal or amortization of bonded or other indebtedness of the Board or the City, on behalf of the Board, payable from revenues of the System, costs or charges made therefor, capital additions, replacements, betterments, extensions or improvements to or retirement from the System which under generally accepted accounting principles are properly chargeable to the capital account or the reserve for depreciation, and do not include losses from the sale, abandonment, reclassification, revaluation or other disposition of any properties of the System, nor such property items, including taxes and fuels, which are capitalized pursuant to the then existing accounting practices of the Board or expenses of a system that is merged into the System, as permitted hereunder, if revenues of the merged system are not included in Revenues at the election of the Board. If the Board operates its utilities as a Combined System, as defined herein, Current Operating Expenses shall be deemed to refer to the Current Operating Expenses of the Combined System.

"Debt Service" for any period shall mean, as of any date of calculation and with respect to the indebtedness with respect to which such calculation is being made, an amount equal to (i) the interest accruing during such period on such indebtedness plus (ii) the portion of each Principal Installment which would accrue during such period if such Principal Installment were deemed to accrue periodically in equal amounts from the next preceding Principal Installment due date for such indebtedness (or, if there shall be no such preceding Principal Installment due date, from a date of issuance of the indebtedness). For purposes of this definition:

(a) The principal and interest portions of the Accreted Value of Capital Appreciation Debt becoming due at maturity or by virtue of a Sinking Fund Installment shall be included in the calculations of accrued and unpaid and accruing interest or Principal Installments in such manner and during such period of time as is specified in the resolution authorizing such Capital Appreciation Debt.

(b) The annual principal and interest requirement on Short-Term Indebtedness shall be calculated as that amount necessary to amortize the Short-Term Indebtedness from the date it was issued over twenty (20) years in twenty (20) approximately equal annual payments of principal and interest using an assumed interest rate (which shall be the interest rate as of the date of issuance or the date of calculation, whichever is less, certified by a Financial Advisor to be the interest rate at which the City on behalf of the Board could reasonably expect to borrow the same amount by issuing indebtedness with the same priority of lien as such Balloon Indebtedness and with a 20-year term).

(c) With respect to any Variable Rate Indebtedness, including Hedged Indebtedness if the interest thereon calculated as set forth below is expected to vary, the interest coming due in any specified future period shall be determined as if the interest rate in effect at all times during such future period was, at the option of the Board, either (1) the average of the actual interest rates which were in effect (weighted according to the length of the period during which each such interest rate was in effect) for the most recent 12-month period immediately preceding the date of calculation for which such information is available (or shorter period if such information is not available for a 12-month period), or (2) the current average annual fixed rate of interest on securities of similar quality having a similar maturity date as certified by a Financial Advisor.

(d) With respect to any Hedged Indebtedness, the interest on such Hedged Indebtedness during any Hedge Period and for so long as the provider of the related Hedge Agreement has not defaulted on its payment obligations thereunder shall be calculated by adding (x) the amount of interest payable by the City or the Board on such Hedged Indebtedness pursuant to its terms and (y) the amount of Hedge Payments payable by the City or the Board under the related Hedge Agreement and subtracting (z) the amount of Hedge Receipts payable by the provider of the related Hedge Agreement at the rate specified in the related Hedge Agreement; provided, however, that to the extent that the provider of any Hedge Agreement is in default thereunder, the amount of interest payable by the City or the Board on the related Hedged Indebtedness shall be the interest calculated as if such Hedge Agreement had not been executed. In determining the amount of Hedge Payments or Hedge Receipts that are not fixed throughout the Hedge Period (i.e., which are variable), payable or receivable for any future period, such Hedge Payments or Receipts for any period of calculation (the "Determination Period") shall be computed by assuming that the variables comprising the calculation (e.g., indices) applicable to the Determination Period are equal to the average of the actual variables which were in effect (weighted according to the length of the period during which each such variable was in effect) for the most recent 12-month period immediately preceding the date of calculation for which such information is available (or shorter period if such information is not available for a 12-month period).

(e) With respect to Balloon Indebtedness (1) which is subject to a Commitment or (2) which does not have a Balloon Year commencing within 12 months from the date of calculation, such Balloon Indebtedness shall be assumed to be amortized in substantially equal annual amounts to be paid for principal and interest over an assumed amortization period of 20 years from the date of issuance at an assumed interest rate (which shall be the interest rate as of the date of issuance or the date of calculation, whichever is less, certified by a Financial Advisor to be the interest rate at which the City on behalf of the Board could reasonably expect to borrow the same amount by issuing indebtedness with the same priority of lien as such Balloon Indebtedness and with a 20-year term); provided, however, that if the maturity of such Balloon Indebtedness (taking into account the term of any Commitment) is in excess of 20 years from the date of issuance, then such Balloon Indebtedness shall be assumed to be amortized in substantially equal annual amounts to be paid for principal and interest over an assumed amortization period of years equal to the number of years from the date of issuance of such Balloon Indebtedness to maturity (including the Commitment) and at the interest rate provided above. For the purpose of calculating the Debt Service Requirement on Balloon Indebtedness (a) which are not subject to a Commitment and (b) which have a Balloon Year commencing within 12 months from the date of calculation, the principal payable on such Balloon Indebtedness during the Balloon Year shall be calculated as if paid on the Balloon Date.

(f) The principal of and interest on Parity Indebtedness and Hedge Payments shall be excluded from the determination of Debt Service to the extent that the same were or are expected to be paid with amounts on deposit on the date of calculation (or proceeds of indebtedness to be deposited on the date of issuance of any proposed Parity Indebtedness) in a fund established for such purpose.

"Financial Advisor" shall mean an investment banking or financial advisory firm or commercial bank who or which is retained by the Board for the purpose of passing on questions relating to the availability and terms of specified types of indebtedness and is actively engaged in and, in the good faith opinion of the Board, has a favorable reputation for skill and experience in underwriting or providing financial advisory services in respect of similar types of securities.

"Fiscal Year" shall mean the twelve month period beginning July 1 of each year and ending June 30 of the following year.

"Hedge Agreement" shall mean, without limitation, (i) any contract known as or referred to or which performs the function of an interest rate swap agreement, currency swap agreement, forward payment conversion agreement, or futures contract; (ii) any contract providing for payments based on levels of, or changes or differences in, interest rates, currency exchange rates, or stock or other indices; (iii) any contract to exchange cash flows or payments or series of payments; (iv) any type of contract called, or designed to perform the function of, interest rate floors, collars, or caps, options, puts, or calls, to hedge or minimize any type of financial risk, including, without limitation, payment, currency, rate, or other financial risk; and (v) any other type of contract or arrangement that the Board determines is to be used, or is intended to be used, to manage or reduce the cost of any indebtedness or other obligations, to convert any element of any indebtedness or other obligations from one form to another, to maximize or increase investment return, to minimize investment return risk, or to protect against any type of financial risk or uncertainty. A Hedge Agreement shall not include any commodity hedge agreement or similar arrangement. For purposes of Resolution No. 2075, as amended, a Hedge Agreement shall be deemed not to have any principal amount for purposes of obtaining consents or approvals of holders of Parity Indebtedness or for otherwise determining the amount of Outstanding Parity Indebtedness.

"Hedged Indebtedness" shall mean any indebtedness or other obligation for which the Board or the City, on behalf of the Board, shall have entered into a Hedge Agreement.

"Hedge Payments" shall mean amounts payable by the Board or the City, on behalf of the Board, pursuant to any Hedge Agreement, other than termination payments, fees, expenses, and indemnity payments.

"Hedge Period" shall mean the period during which a Hedged Agreement is in effect.

"Hedge Receipts" shall mean amounts payable by any provider of a Hedge Agreement pursuant to such Hedge Agreement, other than termination payments, fees, expenses, and indemnity payments.

"Maximum Annual Aggregate Debt Service" shall mean the maximum Aggregate Debt Service in the Fiscal Year during which such calculation is made or any future Fiscal Year.

"Net Revenues" shall mean Revenues, excluding any profits or losses on the sale or other disposition, not in the ordinary course of business, of investments or fixed or capital assets, less Current Operating Expenses.

"Outstanding Parity Indebtedness" shall mean any Parity Indebtedness that is outstanding under the resolution or other document under which such Parity Indebtedness is issued.

"Parity Indebtedness" shall mean bonds, notes, loan agreements, and other debt obligations, including Balloon Indebtedness, Short-Term Indebtedness, Variable Rate Indebtedness and Hedge Agreements (but only to the extent of Hedge Payments), issued by or entered into by the Board or by the City on behalf of the Board on a parity of lien under the Resolution in accordance with the restrictive provisions of the Resolution described herein, including any bonds, notes, loan agreements or other obligations secured by a pledge of and/or lien on a Merged System and the revenues derived from the operation of such Merged System, as defined herein, (provided such pledge and lien are subject only to normal and customary expenses of operating, maintaining, repairing and insuring any such System), so long as the Merged System is not being operated separately from the System as is permitted herein.

"Principal Installment" shall mean, as of the date of calculation and with respect to the indebtedness with respect to which the calculation is being made, (i) the principal amount of the indebtedness due on a certain future date for which no Sinking Fund Installments have been established, (ii) Sinking Fund Installment due on a certain future date for such indebtedness and (iii) if such future dates coincide, the sum of such principal amount and any such Sinking Fund Installment.

"Qualified Hedge Provider" shall mean an entity whose senior unsecured long term obligations, financial program rating, counterparty rating, or claims paying ability, or whose payment obligations under the related Hedge Agreement are absolutely and unconditionally guaranteed or insured or collateralized by an entity whose senior unsecured long term obligations, financial program rating, counterparty rating, or claims paying ability, are rated either (i) at least as high as "A" or better by Standard & Poor's' Rating Group (or any successor thereto) ("S&P") or "A2" or better by Moody's Investors Services, Inc. (or any successor thereto) ("Moody's") (the "Initial Rating Requirement") and such entity maintains a rating on its debt or claims paying ability of not less than "A-" from S&P or "A3" from Moody's (the "Minimum Rating Requirement"); provided that this requirement shall be deemed to have been met, even if the rating of such entity is reduced below the Minimum Rating Requirement, if such entity is replaced with an entity meeting the Initial Rating Requirement within twenty business days from when the Board receives notice that the Minimum Rating Requirement has not been met. An entity's status as a Qualified Hedge Provider is made as of the time the applicable calculation is made.

"Revenues" shall mean all revenues, rentals, earnings and income of the System from whatever source, determined in accordance with generally accepted accounting principles, including all revenues derived from the operation of the System; proceeds from the sale of property; proceeds of insurance and condemnation awards and compensation for damages, to the extent not applied to the payment of the cost of repairs, replacements and improvements; and all amounts realized from the investment of money in the accounts and funds of the System (excluding any investment earnings from construction or improvement funds created for the deposit of bond, note, or loan agreement proceeds pending use, to the extent such income is applied to the purposes for which the bonds, notes or loan agreement were issued, and funds created to refund any outstanding obligations payable from Revenues of the System) and at the election of the Board, shall not include any rates, fees, rentals or other charges or other income received by the Board from the operation of a Merged System.

"Short-Term Indebtedness" shall mean bonds, notes or other obligations, including Variable Rate Indebtedness, maturing five (5) years or less from their date of issuance which are issued in anticipation of the issuance of revenue bonds the proceeds of which will be used to pay the Short-Term Indebtedness.

"Sinking Fund Installment" shall mean, as of any particular date of calculation, the amount required to be paid on a certain future date for the retirement of Outstanding Parity Indebtedness which mature after said future date, but does not include any amount payable by reason of the maturity of an Outstanding Parity Indebtedness or by call for redemption at the election of the Board or the City on behalf of the Board.

"Valuation Date" shall mean with respect to any Capital Appreciation Indebtedness, the date or dates set forth in the resolution authorizing such Capital Appreciation Bonds on which specific Accreted Values are assigned to the Capital Appreciation Bonds.

"Variable Rate Indebtedness" shall mean any bonds, notes or other obligations of the Board or the City, on behalf of the Board, the interest rate on which is subject to periodic adjustment, at intervals, at such times and in such manner as shall be determined by the resolution authorizing such indebtedness, provided that if the interest rate shall have been fixed for the remainder of the term thereof (including a fixed rate pursuant to a Hedge Agreement with a Qualified Hedge Provider), it shall no longer be Variable Rate Indebtedness.

The term "Bonds" in Resolution No. 2075 shall for all purposes have the same meaning as "Parity Indebtedness" described above unless the context clearly requires otherwise, and notwithstanding any provision of Resolution No. 2075 to the contrary, any Parity Indebtedness issued on a parity of lien under Resolution No. 2075, as amended, may be in such form, may be executed in such manner, may be payable upon such terms and upon such dates, may be subject to such registration provisions, may be designated in such manner, may be issued for such purpose and may be issued pursuant to such applicable laws as is provided in the resolution authorizing such Parity Indebtedness.

## Additional Indebtedness

The Series FF-2017 Bonds issued pursuant to the Resolution shall be on a parity with the Outstanding Parity Indebtedness, and with all Parity Indebtedness hereafter issued within the terms, limitations and restrictions of the Resolution, as amended.

The City has covenanted that it will not incur any other obligations or indebtedness payable from the revenues of the System which will have priority, with respect to the payment of principal or interest out of the Water Fund, over the Series FF-2017 Bonds.

The following shall apply to the incurrence of additional Parity Indebtedness:

(a) Provided that all payments required to be made to the Debt Service Fund and into any reserve fund which may be required under resolutions authorizing Parity Indebtedness are current as of the date of issuance of the additional bonds, notes or other obligations, additional bonds, notes or other obligations may be issued or entered into by the City or the Board on a parity and equality of lien with the Outstanding Parity Indebtedness with respect to the lien and claim of such additional bonds, notes or other obligations to the net revenues of the System and the money on deposit in the Debt Service Fund for the following purposes and under the following conditions, but not otherwise:

> (i) For the purpose of refunding any Outstanding Parity Indebtedness, subordinate bonds, notes, loan agreements or other obligations, provided that after the issuance of such additional Parity Indebtedness, the Aggregate Debt Service on all Outstanding Parity Indebtedness, including the additional Parity Indebtedness to be issued, in any Fiscal Year shall not increase by more than ten percent (10%) after the issuance of such additional Parity Indebtedness.
>
> (ii) For the purpose of financing the completion or equipping of improvements to the System for which Outstanding Parity Indebtedness have previously been issued but only to the extent necessary to complete such improvements in the manner contemplated at the time of the issuance of the Outstanding Parity Indebtedness that financed such improvements.
>
> (iii) For the purposes of refunding any Outstanding Parity Indebtedness or any Prior Lien Bonds, subordinated bonds, notes or other obligations or extending, improving or replacing the System or for any other lawful purpose under applicable law, if one of the following conditions shall have been met: (A) the Net Revenues for any twelve-month period selected by the Board ending within the twelve months prior to the date of the issuance of the additional Parity Indebtedness must have been equal to at least 120% of the Maximum Annual Aggregate Debt Service on Outstanding Parity Indebtedness plus the Debt Service on the additional Parity Indebtedness proposed to be issued or (B) the estimated Net Revenues of the System for each of the three Fiscal Years next succeeding the issuance of the additional Parity Indebtedness, must be equal at least to 120% of Maximum Annual Aggregate Debt Service on the Notes, any other Outstanding Parity Indebtedness and all outstanding Prior Lien Bonds plus the Debt Service on the additional Parity Indebtedness proposed to be issued; provided, however, that if the additional Parity Indebtedness is to be issued for the acquisition or construction of any extension, improvement or replacement to the System, then the estimate of Net Revenues may be for the three Fiscal Years ensuing after the time that such improvement, extension or replacement is expected to be placed in service.
>
> (iv) For the purpose of entering into a Hedge Agreement with a Qualified Hedge Provider with respect to Outstanding Parity Indebtedness but only to the extent of Hedge Payments.

(b) In calculating Net Revenues, Debt Service and Maximum Annual Aggregate Debt Service for all purposes under the Resolution, the following adjustments and assumptions shall be made:

> (i) In calculating Net Revenues on a historical basis, the amount of such Net Revenues may be adjusted to take into account any rate increase adopted by the Board that is effective prior to the date of such calculation.
>
> (ii) In calculating projected Net Revenues for any period in the future, the amount of such Net Revenues may be adjusted to take into account any rate increase adopted by the Board that is to be effective within one year of the date of such calculation, and if such calculation is being made in connection with the issuance of Parity Indebtedness, the Net Revenues may be calculated based upon the assumption that any improvements financed with proceeds of the Parity

Indebtedness will be completed within a time period established in a report of a Consulting Engineer.

(c) Any calculation or projection of Net Revenues described above, whether for a historical period or for a future period, shall be set forth in a certificate of the President and Chief Executive Officer and Chief Financial Officer of the Board. If the calculation is made as to a future period, a Consulting Engineer shall state in a report that the assumptions underlying any projections of the Board as to Net Revenues are reasonable. Any calculation of the Maximum Annual Aggregate Debt Service shall also be set forth in a certificate of the President and Chief Executive Officer and Chief Financial Officer of the Board, which certificate shall be accompanied by a certificate of a financial advisory firm to the effect that the calculation of Maximum Annual Aggregate Debt Service is correct and is in compliance with the terms of the Resolution, but such certificate of the financial advisory firm shall only be required if Variable Rate Indebtedness, Balloon Indebtedness or Short-Term Indebtedness must be taken into account in the calculation of Maximum Annual Aggregate Debt Service.

(d) Any obligation of the Board to pay amounts under a Hedge Agreement other than Hedge Payments, including a termination payment upon the termination of a Hedge Agreement, shall be a subordinate obligation to the obligations with respect to Parity Indebtedness.

Collection of Revenues and Disposition of Revenues

As long as any Parity Indebtedness shall be outstanding and unpaid either as to principal or as to interest, or until the discharge and satisfaction of the Parity Indebtedness as provided in the resolution authorizing said Parity Indebtedness, the entire income and revenues of the System shall be deposited as collected in the Revenue Fund established by the Resolution (the "Revenue Fund"), to be administered and controlled by the Board. The income and revenues deposited therein shall be used only as follows:

(a) The money in the Revenue Fund shall be disbursed first from month to month for the payment of Current Operating Expenses.

(b) The money remaining in the Revenue Fund, after payment of Current Operating Expenses, shall next be used to make deposits into a separate and special fund, to be known as the Debt Service Fund (the "Debt Service Fund"), to be kept separate and apart from all other funds of the Board and used to pay principal of and interest on Parity Indebtedness and Hedge Payments (net of Hedge Receipts) with respect thereto as the same become due, either by maturity or mandatory redemption. Such deposits shall be made monthly, or as otherwise set forth herein or in the resolution authorizing such Parity Indebtedness or Hedged Payments, until all Parity Indebtedness is paid in full or discharged and satisfied. Unless otherwise authorized in the resolution authorizing any Parity Indebtedness, for the period commencing with the month next following the delivery of the Parity Indebtedness, each monthly deposit shall be an amount that, together with all other monthly deposits of approximately equal amounts during such period and amounts otherwise in said Fund, will be equal to principal due on the Parity Indebtedness on the next principal payment date, divided by the number of months from and including the month of the first such deposit to and including the months preceding the next principal payment date; provided that, if the next principal payment date is more than 13 months following the month next following the delivery of the Parity Indebtedness, such monthly deposits to the Debt Service Fund shall commence in the month that is 13 months prior to the month of the next principal payment date. Furthermore, during such period, there shall be deposited to the Debt Service Fund monthly an amount equal to one-sixth (1/6) of the interest coming due on the next interest payment date for Parity Indebtedness (unless otherwise specified in the resolution authorizing such Parity Indebtedness).

In each month thereafter, each monthly deposit shall consist of an interest component and a principal component except as provided in the Resolution. If interest is payable semi-annually, then the interest component shall be an amount equal to not less than one-sixth (1/6th) of the interest coming due on any Parity Indebtedness on the next succeeding interest payment date, unless otherwise specified in the resolution authorizing such Parity Indebtedness. Unless otherwise specified in the resolution authorize Parity Indebtedness, the principal component shall be an amount which shall be established annually on each July 1 for all payments to be made during the ensuing twelve-month period commencing in July of each calendar year and ending in June of the following calendar year and shall be not less than one-twelfth (1/12) of the principal amounts, as the case may be, coming due, whether by maturity or mandatory redemption, on the Parity Indebtedness then outstanding during such twelve-month period. No further deposit shall be required when the Debt Service Fund balance is equal to or greater than the amount needed to pay interest coming due on the next interest payment date and the total of the principal amounts payable, either by maturity or mandatory redemption, during the applicable twelve-month period. Money in the Debt Service Fund shall be used solely and is expressly and exclusively pledged for the purpose of paying principal of and interest on Parity Indebtedness. Notwithstanding the foregoing, deposits for the payment of principal and interest on Variable Rate Indebtedness or Hedge Payments shall be made as set forth in the resolution authorizing such Variable Rate Indebtedness or Hedge Payments.

(c) The next available money in the Revenue Fund shall be paid to any issuer of an insurance policy, surety bond, letter of credit or similar instrument (a "Reserve Fund Credit Facility") (pro rata, if more than one) to the extent needed to reimburse the issuer for any amounts advanced under the Reserve Fund Credit Facility, including any amounts payable under any guaranty agreement relating to such amounts, together with reasonable related expenses incurred by the issuer of such Reserve Fund Credit Facility and any interest relating to such amounts.

(d) The next available money in the Revenue Fund shall be deposited to any reserve fund created pursuant to any resolution authorizing Parity Indebtedness in the manner provided in such resolution.

(e) The next available money in the Revenue Fund shall be used to pay liquidity fees, remarketing agent fees and similar fees that are payable in connection with the issuance of Parity Indebtedness.

(f) The next available money in the Revenue Fund shall be used for the payment of all other payments to be made under the Parity Indebtedness not provided for in the preceding subsections including payments in connection with Hedge Agreements that are not Hedge Payments, including termination payments.

(g) The next available money in the Revenue Fund shall be used to pay principal of and interest on (including reasonable reserves therefor) any bonds, notes or obligations payable from the Revenues of the System, but junior and subordinate to the Parity Indebtedness and then for the purpose of the payment of liquidity fees, credit enhancement fees, remarketing agent fees and similar fees that are payable in connection with bonds, notes or other obligations payable from the Revenues of the System, but junior and subordinate to the Parity Indebtedness.

(h) The next available money in the Revenue Fund shall be used for the purpose of making payments in lieu of taxes and, to the extent not so used, may be used for any lawful purpose, including such reserve funds and other funds as the Board deems necessary and appropriate.

(i) Money on deposit in the Funds described above may be invested by the Board in such investments as shall be permitted by applicable law, as determined by an authorized representative of the

Board, all such investments to mature not later than the date on which the money so invested shall be required for the purpose for which the respective Fund was created. All income derived from such investments shall be regarded as revenues of the System and shall be deposited in the Revenue Fund. Such investments shall at any time necessary be liquidated and the proceeds thereof applied to the purpose for which the respective Fund was created. The Board is authorized to enter into contracts with third parties for the investment of funds in any of the Funds described herein.

(j) The Revenue Fund and the Debt Service Fund shall be held and maintained by the Board and, when not invested, kept on deposit with a bank or financial institution regulated by and the deposits of which are insured by the Federal Deposit Insurance Corporation or similar federal agency. All moneys in such Funds so deposited shall at all times be secured to the extent and in the manner required by applicable State law.

Rate Covenant

The City shall maintain the System in good condition and will operate the System in an efficient and economical manner, and the City will fix rates and collect charges for water and for the services, facilities and commodities furnished by the System so as to provide revenues sufficient to pay, as the same shall become due, the principal of and interest on the Bonds, in addition to paying as the same shall become due the necessary expenses of operating and maintaining the System and all other obligations and indebtedness that are payable out of the revenues of the System, which obligations and indebtedness are a charge against said revenues equally and ratably with the charge of the Bonds.

Discharge and Satisfaction of Bonds

If the Board, on behalf of the City, shall pay and discharge the indebtedness evidenced by any of the Series FF-2017 Bonds (referred to hereinafter, collectively, as the "Bonds") in any one or more of the following ways:

(a) By paying or causing to be paid, by deposit of sufficient funds as and when required with the Registration Agent, the principal of and interest on such Bonds as and when the same become due and payable;

(b) By depositing or causing to be deposited with any financial institution which has trust powers and which is regulated by and the deposits of which are insured by the Federal Deposit Insurance Corporation or similar federal agency ("an Agent"; which Agent may be the Registration Agent), in trust or escrow, on or before the date of maturity or redemption, sufficient money or Defeasance Obligations, the principal of and interest on which, when due and payable, will provide sufficient moneys to pay or redeem such Bonds and to pay premium, if any, and interest thereon when due until the maturity or redemption date (provided, if such Bonds are to be redeemed prior to maturity thereof, proper notice of such redemption shall have been given or adequate provision shall have been made for the giving of such notice); or

(c) By delivering such Bonds to the Registration Agent, for cancellation by it;

and if the Board, on behalf of the City, shall also pay or cause to be paid all other sums payable under the Resolution by the Board or the City with respect to such Bonds or make adequate provision therefor, and by resolution of the Board instruct any such Agent to pay amounts when and as required to the Registration Agent for the payment of principal of and interest and redemption premiums, if any, on such Bonds when due, then and in that case the indebtedness evidenced by such Bonds shall be discharged and satisfied and all covenants, liens, pledges, agreements and obligations entered into, created, or imposed under the

Resolution, including the pledge of and lien on the net earnings of the System set forth in the Resolution, shall be fully discharged and satisfied with respect to such Bonds and the owners thereof and shall thereupon cease, terminate and become void.

If the Board, on behalf of the City, shall pay and discharge or cause to be paid and discharged the indebtedness evidenced by any of the Bonds in the manner provided in either clause (a) or clause (b) above, then the registered owners thereof shall thereafter be entitled only to payment out of the money or Defeasance Obligations deposited as aforesaid.

Except as otherwise provided in the Resolution, neither Defeasance Obligations nor moneys deposited with the Agent nor principal or interest payments on any such Defeasance Obligations shall be withdrawn or used for any purpose other than, and shall be held in trust for, the payment of the principal of and premium, if any, and interest on said Bonds; provided that any cash received from such principal or interest payments on such Defeasance Obligations deposited with the Agent, (A) to the extent such cash will not be required at any time for such purpose, shall be paid over to the Board as received by the Agent and (B) to the extent such cash will be required for such purpose at a later date, shall, to the extent practicable, be reinvested in Defeasance Obligations maturing at times and in amounts sufficient to pay when due the principal and premium, if any, and interest to become due on said Bonds on or prior to such redemption date or maturity date thereof, as the case may be, and interest earned from such reinvestments, to the extent not needed for the payment of such principal, premium and interest, shall be paid over to the Board, as received by the Agent. For the purposes described herein, Defeasance Obligations shall mean direct obligations of, or obligations, the principal of and interest on which are guaranteed by, the United States of America, or any agency thereof, obligations of any agency or instrumentality of the United States or any other obligations at the time of the purchase thereof are permitted investments under Tennessee law for the purposes described in this Section, which bonds or other obligations shall not be subject to redemption prior to their maturity other than at the option of the registered owner thereof.

Nothing described above shall be construed to alter or change the redemption provisions relating to the Series FF-2017 Bonds. No redemption privilege shall be exercised with respect to the Series FF-2017 Bonds or any Parity Bonds except at the option and election of the Board. The right of redemption set forth in the Resolution shall not be exercised by any Registration Agent or Agent unless expressly so directed in writing by an authorized representative of the Board.

Insurance

The City will carry adequate fire and windstorm insurance on buildings and contents of buildings of the System and provide for adequate public liability insurance, and the City will also carry such other insurance as is ordinarily carried by utility companies privately owned or municipally owned and doing a similar business in territory contiguous to the City.

Audits

The City will cause proper books and accounts adapted to the System to be kept and will cause the books and accounts with respect to the System to be audited annually by an independent firm of certified public accountants, and will make generally available to security holders the balance sheet and the profit and loss statement of the System as certified by such accountants

Appointment of Receiver

The holder or holders of not less than twenty-five percent (25%) of the Bonds then outstanding, including a trustee or trustees for such holders, shall, in addition to all other remedies and rights of holders of any of the Bonds, have the right, by appropriate proceedings in any court of competent jurisdiction, in the event of default in the payment of the principal of or interest on the Bonds which default shall continue for a period of thirty days, to obtain the appointment of a receiver for the System, which receiver may enter upon and take possession of the System, operate and maintain the System, fix rates and collect all revenues arising therefrom in as full a manner and to the same extent as the City itself might do. The receiver shall deposit all moneys collected by him in a separate account or accounts and shall dispose of such revenues in accordance with the terms and conditions of this resolution and as the court shall direct.

## Combined Systems

Notwithstanding anything provided in the Resolution, nothing contained in the Resolution shall prevent the Board from combining any or all of the Board's utility systems into a single unified operation (the "Combined System") and commingling the revenues of the systems so combined in the Combined System without keeping separate accounts of the funds of each of such systems, provided payments from the funds of the Combined System are required to be made into the Debt Service Fund created under the Resolution from time to time in amounts sufficient to comply with provisions thereof and in amounts sufficient to pay the principal of and interest on the Outstanding Parity Indebtedness as such principal and interest becomes due. Bonds, notes and other obligations ("Parity Combined System Obligations") payable from revenues of the Combined System may be issued on a parity with Outstanding Parity Indebtedness provided at the time of the issuance of any such Parity Combined System Obligations, the following conditions have been complied with. The Net Revenues of the Combined System, for a period of twelve consecutive months (hereinafter sometimes called the "Combined Twelve-Month Period") out of the eighteen months immediately preceding the issuance of such Parity Combined System Obligations shall be equal to at least 1.2 times the Maximum Annual Aggregate Debt Service on all Outstanding Parity Indebtedness and the obligations proposed to be issued; or if within twelve months prior to the issuance of the Parity Combined System Obligations a revised schedule of rates for the Combined System or any part thereof shall have been put into effect, then the Net Revenues of the Combined System for the Twelve-Month Period, as certified by a Consulting Engineer or Financial Adviser, that would have resulted from such revised rates had they been in effect for the Twelve-Month Period, may be used in lieu of the actual Net Revenues for such Twelve-Month Period.

## Separate or Merged Systems

Nothing contained in the Resolution shall prevent the Board from acquiring a separate water transmission or distribution system or any combination thereof, or any other system, facilities or equipment which municipalities in Tennessee operating water distribution systems are authorized to own, operate or finance, and nothing herein shall prevent the issuance of bonds, notes, warrants, certificates or other obligations or evidences of indebtedness, to acquire any such system or facilities. Any facilities or system acquired by the Board, at the election of the Board, may be operated as a separate and independent system or be merged into the System and operated as a single unified system with the System (the "Merged Systems"). Revenues of the Merged Systems may be commingled without keeping separate accounts of the funds of each of the systems, provided all Revenues of the Merged Systems are applied in accordance with the Resolution, including the payment of principal of and interest on all bonds, notes or other obligations of the acquired system. All Outstanding Parity Indebtedness and any bonds, notes and other obligations of the acquired system outstanding upon the merger of the systems designated by the Board may be payable from revenues of the Merged Systems on a parity and equality of lien with each other, provided the Net Revenues of the Merged Systems, for a period of twelve consecutive months (hereinafter sometimes called the "Twelve-Month Period") out of the eighteen months immediately preceding the merger of the systems shall be equal to at least 1.2 times the Maximum Annual Aggregate Debt Service on all Outstanding Parity Indebtedness, all bonds, notes and obligations of the acquired system then outstanding and any additional indebtedness to be then issued; or if within twelve months prior to any such calculation, the Board shall have put into effect a revised schedule of rates for the Merged Systems or any part thereof, then the Net Revenues of the Merged Systems, as certified by a Consulting Engineer or Financial Adviser, that would have resulted from such revised rates had they been in effect for the Twelve-Month Period, may be used in lieu of the actual Net Revenues for such Twelve-Month Period.

## Amendment of Resolution

The Resolution may be amended without the consent of or notice to the holders of the Parity Indebtedness for the purposes of (i) curing any ambiguity or formal defect or omission in the Resolution; (ii) making such amendments as are necessary to prevent interest on any Parity Indebtedness from being included in gross income of the holders thereof for federal income tax purposes; (iii) adding to the covenants and agreements of the City or the Board or surrendering or limiting any right or power of the City or the Board; or (iv) making such amendments as are necessary for any Parity Indebtedness to be held or continue to be held in book-entry form.

In addition to the amendments to the Resolution without the consent of the holders as referred to above, the Resolution may be amended from time to time if such amendment shall have been consented to by the holders of not less than a majority in principal amount of Outstanding Parity Indebtedness (not including in any case any Bonds or Parity Indebtedness which may then be held or owned by or for the account of the City or Board); but the Resolution may not be so amended (without the consent of all affected holders of Outstanding Parity Indebtedness) in such manner as to:

(a) make any change in the maturity or interest rate (other than in accordance with its terms) of the Parity Indebtedness, or modify the terms of payment of principal of or interest on Parity Indebtedness or impose any conditions with respect to such payment; or

(b) to make any Parity Indebtedness redeemable other than in accordance with its terms; or

(c) to create a preference or priority of any Parity Indebtedness over any other Parity Indebtedness; or

(d) reduce the percentage of the principal amount of Parity Indebtedness the consent of the holders of which is required to effect a further amendment.

Whenever the City shall propose to amend the Resolution under the provisions described above, the Board shall cause notice of the proposed amendment to the holders of the Parity Indebtedness by sending a summary of such proposed amendment to such holders and shall state that a copy of the proposed amendatory resolution is on file in the office of the Secretary of the Board. The holders of Parity Indebtedness shall be determined by the registration records of the City or the Board or any registration agent therefor or in such other manner as is commercially reasonable.

Whenever at any time within one year from the date of the mailing of such notice there shall be filed with the Secretary an instrument or instruments executed by the holders of at least a majority aggregate principal amount of the Outstanding Parity Indebtedness, which instrument or instruments shall refer to the proposed amendatory resolution described in such notice and shall specifically consent to and approve the adoption thereof, then the Board and/or the City may adopt such amendatory resolution and such resolution shall become effective and binding upon the holders of all Parity Indebtedness.

Any consent given by the holder of Parity Indebtedness pursuant to the provisions described above, shall be irrevocable for a period for one year from the date of the instrument evidencing such consent and shall be conclusive and binding upon all future holders of the same Parity Indebtedness during such period.

Such consent may be revoked at any time after one year from the date of such instrument by the holder who gave such consent or by a successor in title by filing notice of such revocation with the Secretary.

For purposes of determining the aggregate principal amount of Parity Indebtedness outstanding for purposes of amendments, and whether the holders of a sufficient percentage in aggregate principal amount of Bonds and Parity Indebtedness have consented to any amendment, the Board may make such determination at any time while a request for consents to such amendment is outstanding and may include any Parity Indebtedness issued during such period in making such determination. The Accreted Value of any Capital Appreciation Debt as of the time of any such determination shall be used in making any such determination.

The fact and date of the execution of any instrument relative to amendments may be proved by the certificate of any officer in any jurisdiction who by the laws thereof is authorized to take acknowledgments of deeds within such jurisdiction, that the person signing such instrument acknowledged before him the execution thereof, or may be proved by an affidavit of a witness to such execution sworn to before such officer. In the event that any Parity Indebtedness is held in book-entry form, any consent to an amendment may be executed by any beneficial owner of such Parity Indebtedness, which beneficial ownership may be proved by an affidavit of the beneficial owner.

Notwithstanding anything in the Resolution to the contrary, the Board and/or the City may adopt amendments to the Resolution that do not become effective until the payment or defeasance of any Parity Indebtedness outstanding on the date such amendments are adopted.

# SUMMARY OF CERTAIN PROVISIONS
# OF
# WASTEWATER BOND RESOLUTION

# SUMMARY OF CERTAIN PROVISIONS OF THE WASTEWATER SYSTEM BOND RESOLUTIONS

The following statements are brief summaries of certain provisions of the Wastewater Bond Resolutions, copies of which are available for examination at the offices of the Board. Terms defined in the Wastewater Bond Resolutions and not defined elsewhere in this Official Statement shall have the meaning set forth in the Wastewater Bond Resolutions. Section numbers refer to sections of Resolution No. R- 129-90, as amended by Resolution No. R-5-98, Resolution No. R-148-01 and Resolution No. 11-S and as supplemented Resolution No. R-___-2017 and as otherwise supplemented prior to the date hereof (collectively, the "Resolution").

## Security

The Series 2017A Bonds constitute and, when issued, will be Bonds under the Resolution. All Series 2017A Bonds are limited obligations of the City, payable solely and ratably from the net revenues of the Wastewater System of the City and are on parity with each other in all respects.

The Series 2017A Bonds will be issued pursuant to the Resolution, which sets forth in detail the terms and covenants of the City with respect to the Series 2017A Bonds. The following summary is a brief outline of certain provisions contained in the Resolution and is not to be considered as a full statement thereof. This summary is qualified by reference to and is subject to said resolution, copies of which may be examined at the office of the Board.

## Certain Definitions

The following are definitions in summary form of certain terms contained in the Resolution and used herein:

"Accreted Value" shall mean, with respect to any Capital Appreciation Debt, an amount equal to the principal amount of such Capital Appreciation Debt (determined on the basis of the principal amount per $5,000 at maturity thereof) plus the amount assuming semi-annual compounding of earnings which would be produced on the investment of such principal amount, beginning on the dated date of such Capital Appreciation Debt and ending at the date such Accreted Value is calculated, at a yield which, if produced until maturity, will produce $5,000 at maturity. As of any Valuation Date, the Accreted Value of any Capital Appreciation Debt shall mean the amount set forth for such date in the resolution authorizing such Capital Appreciation Debt, which amount shall be required to be determined in the manner described above, and as of any date other than a Valuation Date, the sum of (a) the Accreted Value on the preceding Valuation Date and (b) the product of (1) a fraction, the numerator of which is the number of days having elapsed from the preceding Valuation Date and the denominator of which is the number of days from such preceding Valuation Date to the next succeeding Valuation Date and (2) the difference between the Accreted Values for such Valuation Dates.

"Aggregate Debt Service" for any period shall mean, as of any date of calculation, the sum of the amounts of Debt Service for such period with respect to all indebtedness with respect to which such calculation is required to be made for such period.

"Balloon Date" shall mean any maturity date for Balloon Indebtedness in a Balloon Year.

"Balloon Indebtedness" shall mean any bonds, notes or other indebtedness of the Board or the City, on behalf of the Board, other than Short-Term Indebtedness, twenty-five percent or more of the initial principal amount of which matures (or must be redeemed at the option of the holder) during any twelve month period, if such twenty-five percent or more is not to be amortized to below twenty-five percent by mandatory redemption prior to the beginning of such twelve month period.

"Balloon Year" shall mean any 12-month period in which more than 25% of the original principal amount of related Balloon Indebtedness matures or is subject to mandatory redemption by the Authority.

"Bondholder" shall mean the registered owner of any Bond which at the time shall be registered other than to bearer, or such holders' duly authorized attorney in fact, representative or assigns.

"Bondholders' Committee" shall mean a committee elected by the Bondholders to exercise certain rights upon the occurrence of an Event of Default pursuant to the Resolution.

"Bonds" shall mean Wastewater System Revenue Bonds issued from time to time pursuant to and under the authority of the Resolution and shall for all purposes have the same meaning as "Parity Indebtedness" unless the context clearly requires otherwise.

"Capital Appreciation Debt" shall mean any bonds, notes or other indebtedness of the Board or of the City on behalf of the Board as to which interest is payable only at the maturity or prior redemption of such bonds.

"Commitment," when used with respect to Balloon Indebtedness, shall mean a binding written commitment from a financial institution, surety, or insurance company to refinance such Balloon Indebtedness on or prior to any Balloon Date thereof.

"Consulting Engineer" shall mean (i) an engineering firm or individual engineer employed by the Board with substantial experience in advising utilities similar to the System operated by the Board as to the construction and maintenance of the System and in the projection of relative costs of expansion in the System or (ii) an engineer or engineers who are employees of the Board whose reports or projections are certified by a financial advisor with substantial experience in advising utilities similar to the System.

"Debt Service" for any period shall mean, as of any date of calculation and with respect to the indebtedness with respect to which such calculation is being made, an amount equal to (i) the interest accruing during such period on such indebtedness plus (ii) the portion of each Principal Installment which would accrue during such period if such Principal Installment were deemed to accrue periodically in equal amounts from the next preceding Principal Installment due date for such indebtedness (or, if there shall be no such preceding Principal Installment due date, from a date of issuance of the indebtedness). For purposes of this definition:

(A) The principal and interest portions of the Accreted Value of Capital Appreciation Debt becoming due at maturity or by virtue of a Sinking Fund Installment shall be included in the calculations of accrued and unpaid and accruing interest or Principal Installments in such manner and during such period of time as is specified in the resolution authorizing such Capital Appreciation Debt.

(B) The annual principal and interest requirement on Short-Term Indebtedness shall be calculated as that amount necessary to amortize the Short-Term Indebtedness from the date it was issued over twenty (20) years in twenty (20) approximately equal annual payments of principal and interest using an assumed interest rate (which shall be the interest rate as of the date of issuance or the date of calculation, whichever is less, certified by a Financial Advisor to be the interest rate at which the City on behalf of the Board could reasonably expect to borrow the same amount by issuing indebtedness with the same priority of lien as such Balloon Indebtedness and with a 20-year term).

(C) With respect to any Variable Rate Indebtedness, including Hedged Indebtedness if the interest thereon calculated as set forth below is expected to vary, the interest coming due in any specified future period shall be determined as if the interest rate in effect at all times during such future period was, at the option of the Board, either (1) the average of the actual interest rates which were in effect (weighted according to the length of the period during which each such interest rate was in effect) for the most recent 12-month period immediately preceding the date of calculation for which such information is available (or shorter period if such information is not available for a 12-month period), or (2) the current average annual fixed rate of interest on securities of similar quality having a similar maturity date as certified by a Financial Advisor.

(D) With respect to any Hedged Indebtedness, the interest on such Hedged Indebtedness during any Hedge Period and for so long as the provider of the related Hedge Agreement has not defaulted on its payment obligations thereunder shall be calculated by adding (x) the amount of interest payable by the City or the Board on such Hedged Indebtedness pursuant to its terms and (y) the amount of Hedge Payments payable by the City or the Board under the related Hedge Agreement and subtracting (z) the amount of Hedge Receipts payable by the provider of the related Hedge Agreement at the rate specified in the related Hedge Agreement; provided, however, that to the extent that the provider of any Hedge Agreement is in default thereunder, the amount of interest payable by the City or the Board on the related Hedged Indebtedness shall be the interest calculated as if such Hedge Agreement had not been executed. In determining the amount of Hedge Payments or Hedge Receipts that are not fixed throughout the Hedge Period (i.e., which are variable), payable or receivable for any future period, such Hedge Payments or Receipts for any period of calculation (the "Determination Period") shall be computed by assuming that the variables comprising the calculation (e.g., indices) applicable to the Determination Period are equal to the average of the actual variables which were in effect (weighted according to the length of the period during which each such variable was in effect) for the most recent 12-month period immediately preceding the date of calculation for which such information is available (or shorter period if such information is not available for a 12-month period).

(E) With respect to Balloon Indebtedness (1) which is subject to a Commitment or (2) which does not have a Balloon Year commencing within 12 months from the date of calculation, such Balloon Indebtedness shall be assumed to be amortized in substantially equal annual amounts to be paid for principal and interest over an assumed amortization period of 20 years from the date of issuance at an assumed interest rate (which shall be the interest rate as of the date of issuance or the date of calculation, whichever is less, certified by a Financial Advisor to be the interest rate at which the City on behalf of the Board could reasonably expect to borrow the same amount by issuing indebtedness with the same priority of lien as such Balloon Indebtedness and with a 20-year term); provided, however, that if the maturity of such Balloon Indebtedness (taking into account the term of any Commitment) is in excess of 20 years from the date of issuance, then such Balloon Indebtedness shall be assumed to be amortized in substantially equal annual amounts to be paid for principal and interest over an assumed amortization period of years equal to the number of years from the date of issuance of such Balloon Indebtedness to maturity (including the Commitment) and at the interest rate provided above. For the purpose of calculating the Debt Service Requirement on Balloon Indebtedness (a) which are not subject to a Commitment and (b) which have a Balloon Year commencing within 12 months from the date of calculation, the principal payable on such Balloon Indebtedness during the Balloon Year shall be calculated as if paid on the Balloon Date.

(F) The principal of and interest on Parity Indebtedness and Hedge Payments shall be excluded from the determination of Debt Service to the extent that the same were or are expected to be paid with amounts on deposit on the date of calculation (or proceeds of indebtedness to be deposited on the date of issuance of any proposed Parity Indebtedness) in a fund established for such purpose.

"Debt Service Fund" shall mean the Debt Service Fund created as described herein.

"Financial Advisor" shall mean an investment banking or financial advisory firm or commercial bank who or which is retained by the Board for the purpose of passing on questions relating to the availability and terms of specified types of indebtedness and is actively engaged in and, in the good faith opinion of the Board, has a favorable reputation for skill and experience in underwriting or providing financial advisory services in respect of similar types of securities.

"Fiscal Year" shall mean the twelve month period established by the Board as its fiscal year, and which, as of the date of the adoption of the Resolution, is the twelve month period commencing on July 1 of any calendar year and ending on June 30 of the following calendar year.

"Hedge Agreement" shall mean, without limitation, (i) any contract known as or referred to or which performs the function of an interest rate swap agreement, currency swap agreement, forward payment conversion agreement, or futures contract; (ii) any contract providing for payments based on levels of, or changes or differences in, interest rates, currency exchange rates, or stock or other indices; (iii) any contract to exchange cash flows or payments or series of payments; (iv) any type of contract called, or designed to perform the function of, interest rate floors, collars, or caps, options, puts, or calls, to hedge or minimize any type of financial risk, including, without limitation, payment, currency, rate, or other financial risk; and (v) any other type of contract or arrangement that the Board determines is to be used, or is intended to be used, to manage or reduce the cost of any indebtedness or other obligations, to convert any element of any indebtedness or other obligations from one form to another, to maximize or increase investment return, to minimize investment return risk, or to protect against any type of financial risk or uncertainty. A Hedge Agreement shall not include any commodity hedge agreement or similar arrangement. For purposes of Resolution No. R-129-90, as amended, a Hedge Agreement shall be deemed not to have any principal amount for purposes of obtaining consents or approvals of holders of Parity Indebtedness or for otherwise determining the amount of Outstanding Parity Indebtedness.

"Hedged Indebtedness" shall mean any indebtedness or other obligation for which the Board or the City, on behalf of the Board, shall have entered into a Hedge Agreement.

"Hedge Payments" shall mean amounts payable by the Board or the City, on behalf of the Board, pursuant to any Hedge Agreement, other than termination payments, fees, expenses, and indemnity payments.

"Hedge Period" shall mean the period during which a Hedged Agreement is in effect.

"Hedge Receipts" shall mean amounts payable by any provider of a Hedge Agreement pursuant to such Hedge Agreement, other than termination payments, fees, expenses, and indemnity payments.

"Investment Securities" shall mean any of the following, if and to the extent that the same are legal for the investment of funds of the City and the Board:

(i) direct obligations of, or obligations the principal of and interest on which are unconditionally guaranteed by, the United States of America;

(ii) bonds, debentures, notes, participation certificates or other evidences of indebtedness issued or guaranteed by Bank for Cooperatives; Federal Intermediate Credit Bank; Federal Home Loan Bank System; Export-Import Bank of the United States Federal Land Banks; Federal National Mortgage Association; United States Postal Service; Government National Mortgage Association; Federal Financing

Bank; Farmers Home Administration; Federal Home Loan Mortgage Association or any agency or instrumentality of the United States of America or any other corporation wholly-owned by the United States of America;

(iii) Public Housing Bonds issued by public agencies or municipalities and fully secured as to the payment of both principal and interest by a pledge of annual contributions under an annual contributions contract or contracts with the United States of America or any agency thereof; or Project Notes issued by public agencies or municipalities and fully secured as to the payment of both principal and interest by a requisition or payment agreement with the United States of America or any agency thereof;

(iv) direct and general obligations, to the payment of the principal of and interest on which the full faith and credit of the issuer is pledged, of any of the following: any state of the United States, or any political subdivision of any such state; provided that (a) as to such obligations of a political subdivision, all the taxable real property within such political subdivision shall be subject to taxation thereby to pay such obligations and the interest thereon, without limitation as to rate or amount, and (b) at the time of their purchase under the Resolution, such obligations of any such state or political subdivision are rated in either of the two highest rating categories by two nationally recognized bond rating agencies;

(v) bank time deposits evidenced by certificates of deposit and banker's acceptances issued by any bank, trust company or savings and loan association which is a member of the Federal Deposit Insurance Corporation, provided that such time deposits and bankers' acceptances (a) do not exceed at any one time in the aggregate five percent (5 %) of the total of the capital and surplus of such bank or trust company, or (b) are secured by obligations described in items (i) or (ii) of the definition of Investment Securities, which such obligations at all times have a market value (exclusive of accrued interest) at least equal to such time deposits so secured and, which are free and clear of any claims by third parties and are segregated in a custodial or trust account held by a third party as the agent solely of, or in trust solely for the benefit of, the Board;

(vi) repurchase agreements with any bank or trust company or savings and loan association which is a member of the Federal Deposit Insurance Corporation, which such agreements are secured by securities which are obligations described in items (i) or (ii) of this definition of Investment Securities provided that each such repurchase agreement (A) is in commercially reasonable form and is for a commercially reasonable period, and (B) results in transfer to the Board of legal title to, or the grant to the Board of a prior perfected security interest in, identified securities referred to in items (i) or (ii) above which are free and clear of any claims by third parties and are segregated in a custodial or trust account held by a third party (other than the repurchaser) as the agent solely of, or in trust solely for the benefit of, the Board; provided that such securities acquired pursuant to such repurchase agreements shall be valued at the lower of the then current market value of such securities or the repurchase price thereof set forth in the applicable repurchase agreement; and

(vii) deposits in the State of Tennessee Local Government Investment Pool created under Chapter 4, Title 9, Tennessee Code Annotated.

"Maximum Annual Aggregate Debt Service" shall mean the maximum Aggregate Debt Service in the Fiscal Year during which such calculation is made or any future Fiscal Year.

"Net Revenues" shall mean the Revenues after deducting the Operation and Maintenance Expenses.

"Operation and Maintenance Expenses" shall mean the costs and expenses of operating and maintaining the Wastewater System, including, without limiting the generality of the foregoing, (i) all expenses includable in the operation and maintenance expense accounts of the Board relating to the

Wastewater System according to generally accepted accounting principles, exclusive of depreciation and amortization of property values or losses, and excluding any payments in-lieu-of taxes to the City or other taxing jurisdictions in the State of Tennessee and (ii) to the extent not included in the preceding clause (i) or paid from bond proceeds or otherwise, the Board's share of the costs and expenses of operating and maintaining any plants and properties jointly owned with others.

"Original Bonds" shall mean the outstanding bonds, as referred to in the definition of Original Resolution.

"Original Resolution" means the resolutions authorizing the issuance of the City's Sewer Revenue - General Obligation Bonds, Series M, dated April 1, 1977, as amended, and the resolutions supplemental thereto.

"Outstanding Parity Indebtedness" shall mean any Parity Indebtedness that is outstanding under the resolution or other document under which such Parity Indebtedness is issued.

"Parity Indebtedness" shall mean bonds, notes, loan agreements, and other debt obligations, including Balloon Indebtedness, Short-Term Indebtedness, Variable Rate Indebtedness and Hedge Agreements (but only to the extent of Hedge Payments), issued by or entered into by the Board or by the City on behalf of the Board on a parity of lien under the Resolution in accordance with the restrictive provisions of the Resolution described herein, including any bonds, notes, loan agreements or other obligations secured by a pledge of and/or lien on a Merged System (as defined herein) and the revenues derived from the operation of such Merged System, as defined herein, (provided such pledge and lien are subject only to normal and customary expenses of operating, maintaining, repairing and insuring any such System), so long as the Merged System is not being operated separately from the System as is permitted herein.

"Principal Installment" shall mean, as of the date of calculation and with respect to the indebtedness with respect to which the calculation is being made, (i) the principal amount of the indebtedness due on a certain future date for which no Sinking Fund Installments have been established, (ii) Sinking Fund Installment due on a certain future date for such indebtedness and (iii) if such future dates coincide, the sum of such principal amount and any such Sinking Fund Installment.

"Qualified Hedge Provider" shall mean an entity whose senior unsecured long term obligations, financial program rating, counterparty rating, or claims paying ability, or whose payment obligations under the related Hedge Agreement are absolutely and unconditionally guaranteed or insured or collateralized by an entity whose senior unsecured long term obligations, financial program rating, counterparty rating, or claims paying ability, are rated either (i) at least as high as "A" or better by Standard & Poor's Rating Group (or any successor thereto) ("S&P") or "A2" or better by Moody's Investors Services, Inc. (or any successor thereto) ("Moody's") (the "Initial Rating Requirement") and such entity maintains a rating on its debt or claims paying ability of not less than "A-" from S&P or "A3" from Moody's (the "Minimum Rating Requirement"); provided that this requirement shall be deemed to have been met, even if the rating of such entity is reduced below the Minimum Rating Requirement, if such entity is replaced with an entity meeting the Initial Rating Requirement within twenty business days from when the Board receives notice that the Minimum Rating Requirement has not been met. An entity's status as a Qualified Hedge Provider is made as of the time the applicable calculation is made.

"Refunded Municipal Obligations" means obligations of any state, the District of Columbia or possession of the United States or any political subdivision thereof which obligations are rated in the highest rating category by Moody's Investors Service and Standard & Poor's Corporation and provision for the payment of the principal of and interest on which shall have been made by deposit with a trustee or escrow agent of direct obligations of the United States of America, which are held by a bank or trust company organized and existing under the laws of the United States of America or any state, the District of Columbia or possession thereof in the capacity as custodian, the maturing principal of and interest on which direct obligations of the United States of America when due and payable shall be sufficient to pay when due the principal of and interest on such obligations of such state, the District of Columbia, possession, or political subdivision.

"Revenues" shall mean and include all income, fees, charges, receipts, profits and other moneys derived by the Board from its ownership or operation of the Wastewater System, including, without limiting the generality of the foregoing, (i) all income, fees, charges, receipts, profits and other moneys derived from the furnishing or supplying of the services, facilities and commodities through the Wastewater System; and (ii) all income from investments of moneys held under the Resolution other than investment income on any construction fund but not including any earnings on moneys set aside for rebate to the United States under the provisions of Section 148(f) of the Internal Revenue Code of 1986, as amended. "Revenues" shall not include deposits subject to refund until such deposits have become the property of the Board; and income, fees, charges, receipts, profits or other moneys derived by the Board from its ownership or operation of any separate utility system or any gifts, grants, donations or other moneys received by the Board from any State or Federal agency or other person if such gifts, grants, donations or other moneys are the subject of any limitation or reservation (i) imposed by the donor or grantor or (ii) imposed by law or administrative regulation to which the donor or grantor is subject, limiting the application of such funds.

"Short-Term Indebtedness" shall mean bonds, notes or other obligations, including Variable Rate Indebtedness, maturing five (5) years or less from their date of issuance which are issued in anticipation of the issuance of revenue bonds the proceeds of which will be used to pay the Short-Term Indebtedness.

"Sinking Fund Installment" shall mean, as of any particular date of calculation, the amount required to be paid on a certain future date for the retirement of Outstanding Parity Indebtedness which mature after said future date, but does not include any amount payable by reason of the maturity of an Outstanding Parity Indebtedness or by call for redemption at the election of the Board or the City on behalf of the Board.

"Supplemental Resolution" shall mean any resolution adopted by the City pursuant to and in compliance with the Resolution providing for the issuance of Bonds, and shall also mean any other resolution adopted by the City pursuant to and in compliance with the provisions of the Resolution amending or supplementing the provisions of the Resolution.

"Valuation Date" shall mean with respect to any Capital Appreciation Indebtedness, the date or dates set forth in the resolution authorizing such Capital Appreciation Bonds on which specific Accreted Values are assigned to the Capital Appreciation Bonds.

"Variable Rate Indebtedness" shall mean any bonds, notes or other obligations of the Board or the City, on behalf of the Board, the interest rate on which is subject to periodic adjustment, at intervals, at such times and in such manner as shall be determined by the resolution authorizing such indebtedness, provided that if the interest rate shall have been fixed for the remainder of the term thereof (including a fixed rate pursuant to a Hedge Agreement with a Qualified Hedge Provider), it shall no longer be Variable Rate Indebtedness.

"Wastewater System" or "Wastewater Control System" shall mean all plants and properties, both real and personal and tangible and intangible, now or hereafter existing, of the City, both within and without the City, used for or pertaining to the collection, treatment and disposal of sewerage and wastewater, including industrial waste. Without limiting the generality of the foregoing, said term shall include: (1) the existing plants and properties comprising the Wastewater System of the City, as of the date of adoption of the Resolution; and (2) all additions, improvements, enlargements, extensions, expansions, and betterments to the Wastewater System of the City hereafter constructed or otherwise acquired, including, without limitation, properties acquired by purchase or annexations or properties acquired through the Board's participation in any regional wastewater system.

Authorization of Bonds

Bonds, notes and other obligations of the City or the Board may be issued that will have a parity of lien on the Net Revenues of the Wastewater System. Such Parity Indebtedness may be issued under the Resolution from time to time pursuant to the terms, conditions and limitations of the Resolution, in such amounts as may be determined by the Board, for any purpose authorized therein. The principal amount of Parity Indebtedness which may be issued thereunder and secured thereby shall not be limited, except as may be provided by law.

General Provisions for Issuance of Parity Indebtedness

Parity Indebtedness shall be issued by means of a Supplemental Resolution adopted by the City or the Board in accordance with applicable law.

Requirements for Issuing Additional Indebtedness

Additional Parity Indebtedness may be incurred provided the following requirements are met:

(a) Provided that all payments required to be made to the Debt Service Fund and into any reserve fund which may be required under resolutions authorizing Parity Indebtedness are current as of the date of issuance of the additional bonds, notes or other obligations, additional bonds, notes or other obligations may be issued or entered into by the City or the Board on a parity and equality of lien with the Outstanding Parity Indebtedness with respect to the lien and claim of such additional bonds, notes or other obligations to the net revenues of the System and the money on deposit in the Debt Service Fund for the following purposes and under the following conditions, but not otherwise:

> (i) For the purpose of refunding any Outstanding Parity Indebtedness, subordinate bonds, notes, loan agreements or other obligations, provided that after the issuance of such additional Parity Indebtedness, the Aggregate Debt Service on all Outstanding Parity Indebtedness, including the additional Parity Indebtedness to be issued, in any Fiscal Year shall not increase by more than ten percent (10%) after the issuance of such additional Parity Indebtedness.
>
> (ii) For the purpose of financing the completion or equipping of improvements to the System for which Outstanding Parity Indebtedness have previously been issued but only to the extent necessary to complete such improvements in the manner contemplated at the time of the issuance of the Outstanding Parity Indebtedness that financed such improvements.
>
> (iii) For the purposes of refunding any Outstanding Parity Indebtedness or any Prior Lien Bonds, subordinated bonds, notes or other obligations or extending, improving or replacing the System or for any other lawful purpose under applicable law, if one of the following conditions shall have been met: (A) the Net Revenues for any twelve-month period selected by the Board ending within the twelve months prior to the date of the issuance of the additional Parity Indebtedness must have been equal to at least 120% of the Maximum Annual Aggregate Debt Service on Outstanding Parity Indebtedness plus the Debt Service on the additional Parity Indebtedness proposed to be issued or (B) the estimated Net Revenues of the System for each of the three Fiscal Years next succeeding the issuance of the additional Parity Indebtedness, must be

equal at least to 120% of Maximum Annual Aggregate Debt Service on the Notes, any other Outstanding Parity Indebtedness and all outstanding Prior Lien Bonds plus the Debt Service on the additional Parity Indebtedness proposed to be issued; provided, however, that if the additional Parity Indebtedness is to be issued for the acquisition or construction of any extension, improvement or replacement to the System, then the estimate of Net Revenues may be for the three Fiscal Years ensuing after the time that such improvement, extension or replacement is expected to be placed in service.

(iv) For the purpose of entering into a Hedge Agreement with a Qualified Hedge Provider with respect to Outstanding Parity Indebtedness but only to the extent of Hedge Payments.

(b) In calculating Net Revenues, Debt Service and Maximum Annual Aggregate Debt Service for all purposes under the Resolution, the following adjustments and assumptions shall be made:

(i) In calculating the Net Revenues on a historical basis, the amount of such Net Revenues may be adjusted to take into account any rate increase adopted by the Board that is effective prior to the date of such calculation.

(ii) In calculating the Net Revenues for a period in the future, the amount of such Net Revenues may be adjusted to take into account any rate increase adopted by the Board that is to be effective within one year of the date of such calculation, and if such calculation is being made in connection with the issuance of Parity Indebtedness, the Net Revenues may be calculated based upon the assumption that any improvements financed with proceeds of the Parity Indebtedness will be completed within a time period established in a report of a Consulting Engineer.

(c) Any calculation or projection of Net Revenues described above, whether for a historical period or for a future period, shall be set forth in a certificate of the President and Chief Executive Officer and Chief Financial Officer of the Board. If the calculation is made as to a future period, a Consulting Engineer shall state in a report that the assumptions underlying any projections of the Board as to Net Revenues are reasonable. Any calculation of the Maximum Annual Aggregate Debt Service shall also be set forth in a certificate of the President and Chief Executive Officer and Chief Financial Officer of the Board, which certificate shall be accompanied by a certificate of a financial advisory firm to the effect that the calculation of Maximum Annual Aggregate Debt Service is correct and is in compliance with the terms of the Resolution, but such certificate of the financial advisory firm shall only be required if Variable Rate Indebtedness, Balloon Indebtedness or Short-Term Indebtedness must be taken into account in the calculation of Maximum Annual Aggregate Debt Service.

(d) Any obligation of the Board to pay amounts under a Hedge Agreement other than Hedge Payments, including a termination payment upon the termination of a Hedge Agreement, shall be a subordinate obligation to the obligations with respect to Parity Indebtedness.

Application of Revenues

As long as any Parity Indebtedness shall be outstanding and unpaid either as to principal or as to interest, or until the discharge and satisfaction of the Parity Indebtedness as provided in the resolution authorizing said Parity Indebtedness, the entire income and revenues of the System shall be deposited as collected in the Revenue Fund established by the Resolution (the "Revenue Fund"), to be administered and controlled by the Board. The income and revenues deposited therein shall be used only as follows:

(a) The money in the Revenue Fund shall be disbursed first from month to month for the payment of Operation and Maintenance Expenses.

(b) The money remaining in the Revenue Fund, after payment of Operation and Maintenance Expenses, shall next be used to make deposits into a separate and special fund, to be known as the Debt Service Fund (the "Debt Service Fund"), to be kept separate and apart from all other funds of the Board and used to pay principal of and interest on Parity Indebtedness and Hedge Payments (net of Hedge Receipts) with respect thereto as the same become due, either by maturity or mandatory redemption. Such deposits shall be made monthly, or as otherwise set forth in the Resolution or in the resolution authorizing such Parity Indebtedness or Hedged Payments, until all Parity Indebtedness is paid in full or discharged and satisfied. Unless otherwise authorized in the resolution authorizing any Parity Indebtedness, for the period commencing with the month next following the delivery of the Parity Indebtedness, each monthly deposit shall be an amount that, together with all other monthly deposits of approximately equal amounts during such period and amounts otherwise in said Fund, will be equal to principal due on the Parity Indebtedness on the next principal payment date, divided by the number of months from and including the month of the first such deposit to and including the months preceding the next principal payment date; provided that, if the next principal payment date is more than 13 months following the month next following the delivery of the Parity Indebtedness, such monthly deposits to the Debt Service Fund shall commence in the month that is 13 months prior to the month of the next principal payment date. Furthermore, during such period, there shall be deposited to the Debt Service Fund monthly an amount equal to one-sixth (1/6) of the interest coming due on the next interest payment date for Parity Indebtedness (unless otherwise specified in the resolution authorizing such Parity Indebtedness).

In each month thereafter, each monthly deposit shall consist of an interest component and a principal component except as provided in the Resolution. If interest is payable semi-annually, then the interest component shall be an amount equal to not less than one-sixth (1/6th) of the interest coming due on any Parity Indebtedness on the next succeeding interest payment date, unless otherwise specified in the resolution authorizing such Parity Indebtedness. Unless otherwise specified in the resolution authorizing Parity Indebtedness, the principal component shall be an amount which shall be established annually on each July 1 for all payments to be made during the ensuing twelve-month period commencing in July of each calendar year and ending in June of the following calendar year and shall be not less than one-twelfth (1/12) of the principal amounts, as the case may be, coming due, whether by maturity or mandatory redemption, on the Parity Indebtedness then outstanding during such twelve-month period. No further deposit shall be required when the Debt Service Fund balance is equal to or greater than the amount needed to pay interest coming due on the next interest payment date and the total of the principal amounts payable, either by maturity or mandatory redemption, during the applicable twelve-month period. Money in the Debt Service Fund shall be used solely and is expressly and exclusively pledged for the purpose of paying principal of and interest on Parity Indebtedness. Notwithstanding the foregoing, deposits for the payment of principal and interest on Variable Rate Indebtedness or Hedge Payments shall be made as set forth in the resolution authorizing such Variable Rate Indebtedness or Hedge Payments.

(c) The next available money in the Revenue Fund shall be paid to any issuer of an insurance policy, surety bond, letter of credit or similar instrument (a "Reserve Fund Credit Facility") (pro rata, if more than one) to the extent needed to reimburse the issuer for any amounts advanced under the Reserve Fund Credit Facility, including any amounts payable under any guaranty agreement relating to such amounts, together with reasonable related expenses incurred by the issuer of such Reserve Fund Credit Facility and any interest relating to such amounts.

(d) The next available money in the Revenue Fund shall be deposited to any reserve fund created pursuant to any resolution authorizing Parity Indebtedness in the manner provided in such resolution.

(e) The next available money in the Revenue Fund shall be used to pay liquidity fees, credit enhancement fees, remarketing agent fees and similar fees that are payable in connection with the issuance of Parity Indebtedness.

(f) The next available money in the Revenue Fund shall be used for the payment of all other payments to be made under the Parity Indebtedness not provided for in the preceding subsections including payments in connection with Hedge Agreements that are not Hedge Payments, including termination payments.

(g) The next available money in the Revenue Fund shall be used to pay principal of and interest on (including reasonable reserves therefor) any bonds, notes or obligations payable from the Revenues of the System, but junior and subordinate to the Parity Indebtedness and then for the purpose of the payment of liquidity fees, credit enhancement fees, remarketing agent fees and similar fees that are payable in connection with bonds, notes or other obligations payable from the Revenues of the System, but junior and subordinate to the Parity Indebtedness.

(h) The next available money in the Revenue Fund shall be used for the purpose of making payments in lieu of taxes and, to the extent not so used, may be used for any lawful purpose, including such reserve funds and other funds as the Board deems necessary and appropriate.

(i) Money on deposit in the Funds described above may be invested by the Board in such investments as shall be permitted by applicable law, as determined by an authorized representative of the Board, all such investments to mature not later than the date on which the money so invested shall be required for the purpose for which the respective Fund was created. All income derived from such investments shall be regarded as revenues of the System and shall be deposited in the Revenue Fund. Such investments shall at any time necessary be liquidated and the proceeds thereof applied to the purpose for which the respective Fund was created. The Board is authorized to enter into contracts with third parties for the investment of funds in any of the Funds described herein.

(j) The Revenue Fund and the Debt Service Fund shall be held and maintained by the Board and, when not invested, kept on deposit with a bank or financial institution regulated by and the deposits of which are insured by the Federal Deposit Insurance Corporation or similar federal agency. All moneys in such Funds so deposited shall at all times be secured to the extent and in the manner required by applicable State law.

Investment of Funds

Moneys in the Debt Service Fund shall, to the fullest extent practicable and reasonable, be invested and reinvested by the Board solely in, and obligations credited to such Accounts shall be, investments specified in item (i), (ii), (iii), (iv), (v)(b), (vi) and (vii) of the definition of Investment Securities which shall mature or be subject to redemption at the option of the holder thereof on or prior to the respective dates when the moneys in such accounts will be required for the purposes intended.

Moneys in the Revenue Fund not required for immediate disbursement for the purpose for which said Fund is created shall, to the fullest extent practicable and reasonable, be invested and reinvested by the Board, to the extent allowed by law, solely in, and obligations deposited in said Fund shall be, Investment Securities which shall mature or be subject to redemption at the option of the holder thereof, not later than such times as shall be necessary to provide moneys when needed to provide payments from such Fund.

Combined Systems

Notwithstanding anything elsewhere provided in the Resolution, nothing contained in the Resolution shall prevent the Board from combining any or all of the Board's utility systems into a single unified operation (the "Combined System") and commingling the revenues of the systems so combined in the Combined System without keeping separate accounts of the funds of each of such systems, provided payments from the funds of the Combined System are required to be made into the Debt Service Fund created under the Resolution from time to time in amounts sufficient to comply with provisions thereof and in amounts sufficient to pay the principal of and interest on the Outstanding Parity Indebtedness as such principal and interest becomes due. Bonds, notes and other obligations ("Parity Combined System Obligations") payable from revenues of the Combined System may be issued on a parity with Outstanding Parity Indebtedness provided at the time of the issuance of any such Parity Combined System Obligations, the following conditions have been complied with. The Net Revenues of the Combined System, for a period of twelve consecutive months (hereinafter sometimes called the "Combined Twelve-Month Period") out of the eighteen months immediately preceding the issuance of such Parity Combined System Obligations shall be equal to at least 1.2 times the Maximum Annual Aggregate Debt Service on all Outstanding Parity Indebtedness and the obligations proposed to be issued; or if within twelve months prior to the issuance of the Parity Combined System Obligations a revised schedule of rates for the Combined System or any part thereof shall have been put into effect, then the Net Revenues of the Combined System for the Twelve-Month Period, as certified by a Consulting Engineer or Financial Adviser, that would have resulted from such revised rates had they been in effect for the Twelve-Month Period, may be used in lieu of the actual Net Revenues for such Twelve-Month Period.

Separate System

Nothing contained in the Resolution shall prevent the Board from acquiring a separate wastewater transmission or distribution system or any combination thereof, or any other system, facilities or equipment which municipalities in Tennessee operating wastewater distribution systems are authorized to own, operate or finance, and nothing therein shall prevent the issuance of bonds, notes, warrants, certificates or other obligations or evidences of indebtedness, to acquire any such system or facilities. Any facilities or system acquired by the Board, at the election of the Board, may be operated as a separate and independent system or be merged into the System and operated as a single unified system with the System (the "Merged Systems"). Revenues of the Merged Systems may be commingled without keeping separate accounts of the funds of each of the systems, provided all Revenues of the Merged Systems are applied in accordance with the Resolution, including the payment of principal of and interest on all bonds, notes or other obligations of the acquired system. All Outstanding Parity Indebtedness and any bonds, notes and other obligations of the acquired system outstanding upon the merger of the systems designated by the Board may be payable from revenues of the Merged Systems on a parity and equality of lien with each other, provided the Net Revenues of the Merged Systems, for a period of twelve consecutive months (hereinafter sometimes called the "Twelve-Month Period") out of the eighteen months immediately preceding the merger of the systems shall be equal to at least 1.2 times the Maximum Annual Aggregate Debt Service on all Outstanding Parity Indebtedness, all bonds, notes and obligations of the acquired system then outstanding and any additional indebtedness to be then issued; or if within twelve months prior to any such calculation, the Board shall have put into effect a revised schedule of rates for the Merged Systems or any part thereof, then the Net Revenues of the Merged Systems, as certified by a Consulting Engineer or Financial Adviser, that would have resulted from such revised rates had they been in effect for the Twelve-Month Period, may be used in lieu of the actual Net Revenues for such Twelve-Month Period.

Rate Covenant

The Board covenants and agrees that it shall fix, establish, maintain and collect rates and charges for the services or facilities furnished or supplied by the Wastewater System or which shall be any part thereof, which rates, tolls, rents and charges shall be sufficient in each Fiscal Year to produce Revenues in such Fiscal Year which together with other moneys which lawfully may be applied to the purpose, will be equal to at least the sum of (A) Debt Service on all Bonds and Original Bonds in such Fiscal Year, (B) the necessary expenses of operating, maintaining, renewing and replacing the Wastewater System and (C) the additional amounts, if any, required to pay all other charges or liens whatsoever payable from the Revenues in such Fiscal Year; provided, however, that such rates, tolls, rents, and other charges shall be sufficient to produce in any Fiscal Year Net Revenues at least equal to one and twenty-hundredths (1.20) times Debt Service on all Bonds and Original Bonds in such Fiscal Year.

Additional Covenants

**To Maintain the Properties of the Wastewater System in Good Repair.** The City shall (i) maintain, preserve, and keep, or cause to be maintained, preserved and kept, the properties of the Wastewater system and all additions and betterments thereto and extensions thereof, and every part and parcel thereof in good repair, working order and condition, (ii) from time to time make, or cause to be made, all necessary and proper repairs, renewals, replacements, additions, extensions and betterments thereto, so that at all times the business carried on in connection therewith shall be properly and advantageously conducted, and (iii) comply, or cause to be complied with the terms and conditions of any permit or license for the Wastewater System or any part thereof issued by any federal or state governmental agency or body and with any federal or state law or regulation applicable to the construction, operation, maintenance and repair of the Wastewater System or requiring a license, permit or approval therefor.

**Sale, Lease or Other Disposition of Properties of the Wastewater System.** The City shall not sell, mortgage, lease or otherwise dispose of the properties of the Wastewater System except as provided below.

(1) The City may sell, lease, or otherwise dispose of the properties comprising the Wastewater System upon compliance with the provisions of the Original Resolution so long as Original Bonds are outstanding and if simultaneously with such sale or other disposition thereof provision is made for the payment of all Bonds then outstanding and such Bonds are no longer deemed outstanding within the meaning of the Resolution.

(2) The City may sell, lease or otherwise dispose of any part of the properties comprising the Wastewater system if an Authorized Officer of the Board shall certify in writing that such terms and conditions of the proposed sale, lease or other disposition of any such properties are fair and reasonable, and that the estimated Revenues to be derived from the remaining properties of the Wastewater System, after taking into consideration the use by the Board of the proceeds of such proposed sale, lease or other disposition of such properties, will be sufficient to enable the City to comply with all covenants and conditions of the Resolution Proceeds of any sale, lease or other disposition of any portion of the properties of the Wastewater System shall be paid: (i) if such proceeds are not in excess of $100,000, into the Revenue Fund, or (ii) if such proceeds are in excess of $100,000, (A) into the Bond Retirement Account in the Bond Fund and applied to the purchase or redemption of Bonds or (B) into the Revenue Fund and applied by the Board for the purpose of constructing extensions, betterments or improvements to the Wastewater System, as the Board shall determine.

(3) The City may sell, lease, or otherwise dispose of surplus lands, crops, timber, buildings and any other portion of the works, plant and facilities of the Wastewater System and real and personal property comprising a part thereof, which, in the opinion of the Board, shall have become unserviceable, inadequate, obsolete, worn out, or unfit to be used in the operation of the Wastewater System, or no longer necessary material to, or useful in such operation. Proceeds of any such sale, lease or other disposition of any portion of the properties of the Wastewater System shall be paid into the Revenue Fund.

(4) If permitted by the laws of the State of Tennessee, the City may transfer without consideration the properties comprising the Wastewater System to a public corporation or political subdivision of the State of Tennessee, provided such corporation or subdivision assumes all of the City s obligations and duties under the Resolution.

(5) In the event that any part of the properties comprising the Wastewater System shall be transferred from the City through the operation of law (including condemnation), any moneys received by the City as a result thereof shall be paid (i) if such proceeds are not in excess of $100,000, into the Revenue Fund, or (ii) if such proceeds are in excess of $100,000, (A) into the Bond Retirement Account in the Bond Fund and applied to the purchase or redemption of Bonds or (B) into the Revenue Fund and applied by the Board for the purpose of constructing extensions, betterments or improvements to the Wastewater System, as the Board shall determine.

**Insurance.** (A) Except as provided in paragraph (B) below, the City shall keep, or cause to be kept, the works, plants, and facilities comprising the properties of the Wastewater System and the operations thereof insured to the extent available at reasonable cost with responsible insurers, with policies payable to the Board, against risks of direct physical loss, damage to or destruction of the Wastewater System, or any part thereof, at least to the extent that similar insurance is usually carried by utilities operating like properties against accidents, casualties or negligence, including liability insurance and employer's liability; provided, however, that any time while any contractor engaged in constructing any part of the Wastewater System shall be fully responsible therefor, the City shall not be required to keep such part of the System insured. All policies of insurance shall be for the benefit of the holders of the Bonds and the Board as their respective interests may appear.

In the event of any loss or damage to the properties of the Wastewater System covered by insurance, the Board will (1) with respect to each such loss, promptly repair and reconstruct to the extent necessary to the proper conduct of the operations of the Wastewater System the lost or damaged portion thereof and shall apply the proceeds of any insurance policy or policies covering such loss or damage for that purpose to the extent required therefor, unless, in case of loss or damage involving $100,000 or more the Board shall determine that such repair and reconstruction not be undertaken, and (2) if the Board shall not use the entire proceeds of such insurance to repair or reconstruct such lost or damaged property, the proceeds of such insurance policy or policies or any portion thereof not used for such repair or reconstruction, as the case may be, shall be paid into the Revenue Fund.

(B) If the Board elects to self-insure or fails to carry insurance against any of the risks normally insured against by operators of facilities similar to the Wastewater System, it must secure the concurrence of the Consulting Engineer or independent consultant having an expertise in the insurance of utilities. In making its decision whether to concur in such self insurance, the Consulting Engineer or independent consultant shall (i) make an estimate of the added financial risks, if any, assumed by the City as a result of the self-insurance, (ii) consider the availability of commercial insurance, the terms upon which such insurance is available and the costs of such available insurance, and the effect of such terms and costs upon the City's costs and charges for its services, (iii) determine whether the added financial risk, if any, being assumed by the City is prudent in light of the savings to be realized from such self-insurance or in light of the general availability of insurance.

**Consulting Engineer.** In the event that the City has not complied with its rate covenant, the Board shall retain and appoint, as Consulting Engineer, an independent consulting engineer or engineering firm or corporation having special skill knowledge and experience in analyzing the operations of wastewater systems, preparing rate analyses, forecasting the loads and revenues of wastewater systems, preparing feasibility reports respecting the financing of wastewater systems and advising on the operation of wastewater facilities. Such Consulting Engineer shall no later than 90 days following its retention make an examination of and report on the properties and operations of the Wastewater System. Each such report shall be in sufficient detail to show whether the City has satisfactorily performed and complied with the covenants, agreements and conditions set forth in the Resolution with respect to the management of the business of the Wastewater System, the sufficiency of the amount being charged and collected for services under the requirements of the Resolution, the proper maintenance of the Wastewater System, and the making of repairs, renewals, replacements, modifications, additions and betterments necessary or desirable to improve operating reliability or reduce costs and recommendations thereof. A copy of each such report shall be filed with the Board and sent to any Bondholder filing with the Board a written request for a copy thereof. On the filing of such report, the Board shall undertake a review of the management of the business of the Wastewater System and shall cause the prompt taking of such action as shall be necessary to fully perform and comply with the covenants, agreements and conditions as to which the report specified such failure of performance or compliance.

**Books of Account; Annual Audit.** The Board shall maintain and keep proper books of account relating to the Wastewater System and in accordance with generally accepted accounting principles. Within one hundred twenty (120) days after the end of each Fiscal Year, the Board shall cause such books of account to be audited by an independent certified public accountant. A copy of each audit report and financial statements prepared in conformity with generally accepted accounting principles shall be filed promptly with the Board and sent to any Bondholder filing with the Board a written request for a copy thereof.

**Not to Furnish Free Service; Enforcement of Accounts Due.** So long as any Bonds issued pursuant to the Resolution are outstanding and unpaid, the Board will not furnish or supply any service or facility furnished by it or in connection with the operation of the Wastewater System, free of charge to any person, firm or corporation, public or private, and the Board will promptly enforce the payment of any and all accounts owing to the Board by reason of the ownership and operation of the Wastewater System.

**Not to Issue Additional Bonds Under the Original Resolution.** The City shall not issue any additional Bonds under the Original Resolution except bonds issued to refund Original Bond.

**Amendment of Original Resolution.** The City will not hereafter consent to or agree to any supplement, change, amendment or modification of the Original Resolution which would materially prejudice or adversely affect the rights or interests of the holders of the Bonds except as otherwise expressly provided in the Resolution.

### Tax Covenant

The City has covenanted that throughout the term of the Bonds and through the date that the final rebate, if any, must be made to the United States in accordance with Section 148 of the Internal Revenue code of 1986, as amended (the "Code") it will comply with the provisions of Sections 103 and 141 through 150 of the Code, and the regulations adopted or promulgated under said Section that must be satisfied in order that interest on the Bonds shall be, and continue to be, excluded from gross income for federal income tax purposes under said Section 103.

Amendment of Resolution

The Resolution may be amended without the consent of or notice to the holders of the Parity Indebtedness for the purposes of (i) curing any ambiguity or formal defect or omission in the Resolution; (ii) making such amendments as are necessary to prevent interest on any Parity Indebtedness from being included in gross income of the holders thereof for federal income tax purposes; (iii) adding to the covenants and agreements of the City or the Board or surrendering or limiting any right or power of the City or the Board; or (iv) making such amendments as are necessary for any Parity Indebtedness to be held or continue to be held in book-entry form.

In addition to the amendments to the Resolution without the consent of the holders as referred to above, the Resolution may be amended from time to time if such amendment shall have been consented to by the holders of not less than a majority in principal amount of Outstanding Parity Indebtedness (not including in any case any Bonds or Parity Indebtedness which may then be held or owned by or for the account of the City or Board); but the Resolution may not be so amended (without the consent of all affected holders of Outstanding Parity Indebtedness) in such manner as to:

> (i) make any change in the maturity or interest rate (other than in accordance with its terms) of the Parity Indebtedness, or modify the terms of payment of principal of or interest on Parity Indebtedness or impose any conditions with respect to such payment; or
>
> (ii) to make any Parity Indebtedness redeemable other than in accordance with its terms; or
>
> (iii) to create a preference or priority of any Parity Indebtedness over, any other Parity Indebtedness; or
>
> (iv) reduce the percentage of the principal amount of Parity Indebtedness the consent of the holders of which is required to effect a further amendment.

Whenever the City shall propose to amend the Resolution under the provisions of the Resolution, the Board shall cause notice of the proposed amendment to the holders of the Parity Indebtedness by sending a summary of such proposed amendment to such holders and shall state that a copy of the proposed amendatory resolution is on file in the office of the Secretary of the Board. The holders of Parity Indebtedness shall be determined by the registration records of the City or the Board or any registration agent therefor or in such other manner as is commercially reasonable.

Whenever at any time within one year from the date of the mailing of such notice there shall be filed with the Secretary an instrument or instruments executed by the holders of at least a majority aggregate principal amount of the Outstanding Parity Indebtedness, which instrument or instruments shall refer to the proposed amendatory resolution described in such notice and shall specifically consent to and approve the adoption thereof, then the Board and/or the City may adopt such amendatory resolution and such resolution shall become effective and binding upon the holders of all Parity Indebtedness.

Any consent given by the holder of Parity Indebtedness shall be irrevocable for a period for one year from the date of the instrument evidencing such consent and shall be conclusive and binding upon all future holders of the same Parity Indebtedness during such period. Such consent may be revoked at any time after one year from the date of such instrument by the holder who gave such consent or by a successor in title by filing notice of such revocation with the Secretary.

For purposes of determining the aggregate principal amount of Parity Indebtedness outstanding for purposes of amendments, whether the holders of a sufficient percentage in aggregate principal amount of Bonds and Parity Indebtedness have consented to any amendment, the Board may make such determination at any time while a request for consents to such amendment is outstanding and may include any Parity Indebtedness issued during such period in making such determination. The Accreted Value of any Capital Appreciation Debt as of the time of any such determination shall be used in making any such determination.

The fact and date of the execution of any instrument relative to amendments may be proved by the certificate of any officer in any jurisdiction who by the laws thereof is authorized to take acknowledgments of deeds within such jurisdiction, that the person signing such instrument acknowledged before him the execution thereof, or may be proved by an affidavit of a witness to such execution sworn to before such officer. In the event that any Parity Indebtedness is held in book-entry form, any consent to an amendment may be executed by any beneficial owner of such Parity Indebtedness, which beneficial ownership may be proved by an affidavit of the beneficial owner.

Notwithstanding anything in the Resolution to the contrary, the Board and/or the City may adopt amendments to the Resolution that do not become effective until the payment or defeasance of any Parity Indebtedness outstanding on the date such amendments are adopted.

## Defaults and Remedies

A Bondholders' Committee or any Bondholder shall have authority to exercise each right and remedy granted in the Resolution only to the extent that the exercise of such right or remedy will not impair the rights of the holders of the Original Bonds.

The following events shall be Events of Default under the Resolution:

(1) Default shall be made in the due and punctual payment of the principal of and premium, if any, on any of the Bonds or Original Bonds when the same shall become due and payable, either at maturity or by proceedings for redemption or otherwise;

(2) Default shall be made in the due and punctual payment of any installment of interest on any Bond or Original Bond, or any sinking fund installment for Bonds when and as such installment of interest or sinking fund installment shall become due and payable;

(3) The City shall default in the observance and performance of any other of the covenants, conditions and agreements on the part of the City contained in the Resolution and such default or defaults shall have continued for a period of ninety (90) days, after written notice thereof to the City from the holders of not less than twenty-five percent (25%) in principal amount of the bonds then Outstanding; provided, however, that if such failure shall be such that it cannot be, corrected within such ninety day period, it shall not constitute an Event of Default if corrective action is instituted within such period and diligently pursued until the failure is corrected;

(4) An order, judgment or decree shall be entered by any court of competent jurisdiction with the consent or acquiescence of the City, or if such order, judgment or decree, having been entered without the consent or acquiescence of the City, shall not be vacated, set aside, discharged or stayed (or in case custody or control is assumed by said order, such custody or control shall not otherwise be terminated) within ninety days after the entry thereof, and if appealed,' shall not thereafter be vacated or discharged: (a)

appointing a receiver, trustee or liquidator for the City under the provisions of Chapter IX of an Act to establish a Uniform Law on the Subject of Bankruptcies, II U.S.C. 901-946, (c) granting relief to, the City under any amendment to said Bankruptcy Act or under any other applicable bankruptcy act which shall give relief substantially similar to that afforded by said Chapter IX, or (d) assuming custody or control of the Wastewater System or any part thereof under the provisions of any other law for the relief or aid of debtors.

(5) The City shall (a) admit in writing its inability to pay its debts generally as they become due, (b) file a petition in bankruptcy or seeking a composition of indebtedness, (c) make an assignment for the benefit of its creditors, (d) consent to the appointment of a receiver of the whole or any substantial part of the Wastewater System, (e) file a petition or an answer seeking relief under said Bankruptcy Act as the same may be amended or any other applicable bankruptcy act which shall give relief substantially the same as that afforded by said chapter, or (f) consent to the assumption by any court of competent jurisdiction under the provisions of any other law for the relief or aid of debtors of custody or control of the City or of the whole or any substantial part of the Wastewater System.

If an event of Default shall have happened and shall not have been remedied, the books of record and account of the Board relating to the Wastewater System and all other records relating thereto shall at all times be subject to the inspection and use of any persons holding at least twenty-five percent (25%) of the principal amount of Bonds outstanding and of their respective agents and attorneys or of any committee thereof.

If an Event of Default shall have happened and shall not have been remedied, upon demand of a Bondholders' Committee, the Board shall pay over to the Bondholders' Committee and cause any construction fund trustee to pay over to the Bondholders Committee (i) forthwith, all moneys, securities and funds then held by the Board and pledged under the Resolution, and moneys, securities and funds then held by any construction fund trustee, and (ii) as promptly as practicable after receipt thereof, all Revenues.

During the continuance of an Event of Default as defined in items 1 and 2 above or of any other Event of Default resulting in an Event of Default as defined in items 1 and 2, the Revenues received by a Bondholders' Committee as the result of the taking of possession of the business and properties of the Wastewater System, shall be applied by the Bondholder Committee, subject to the provisions of the Original Resolution so long as the Original Bonds are outstanding thereunder, firstly to the payment of all necessary and proper Operation and Maintenance Expenses of the Wastewater System and all other proper disbursements or liabilities made or incurred by the Bondholders' Committee, secondly, to the then due and overdue payments to the Bond Fund including the making up of deficiencies therein; and lastly, for any lawful purpose in connection with the Wastewater System.

In the event that at any time the funds held by the Bondholders' Committee shall be insufficient for the payment of the principal of and premium, if any, and interest then due on the Bonds, such funds (other than funds held for the payment or redemption of particular Bonds or coupons which have theretofore become due at maturity or by call for redemption) and all Revenues and other moneys received or collected for the benefit or for the account of Holders of the Bonds, subject to the provisions of the Original Resolution so long as the Original Bonds are outstanding thereunder, shall be applied as follows:

(1) Unless the principal of all of the Bonds shall have become due and payable,

FIRST, to the payment of all necessary and proper operating expenses of the Wastewater System and all other proper disbursements or liabilities made or incurred by the Bondholders' Committee;

SECOND, to the payment to the persons entitled thereto of all installments of interest (including any interest on overdue principal) then due in the order of the maturity of such installments, earliest maturities first, and, if the amount available shall not be sufficient to pay in full any installment or installments of interest maturing on the same date, then to the payment thereof ratable, according to the amounts due thereon, to the persons entitled thereto, without any discrimination or preference; and

THIRD, to the payment to the persons entitled thereto of the unpaid principal and premium, if any, due and unpaid upon the Bonds at the time of such payment, ratably, according to the amounts of principal and premium, if any, due on such date to the persons entitled thereto, without any discrimination or preference.

(2) If the principal of all of the Bonds shall have become due and payable,

FIRST, to the payment of all necessary and proper operating expenses of the Wastewater System and all other proper disbursements or liabilities made or incurred by the Bondholders' Committee;

SECOND, to the payment of the principal and interest then due and unpaid upon the Bonds without preference or priority of principal over interest or of interest over principal, or of any installment of interest over any other installment of interest over any other installment of interest, or of any Bond over any other Bond, ratably, according to the amounts due respectively for principal and interest, to the persons entitled thereto without any discrimination or preference.

Upon the occurrence of an Event of Default and while such Event of Default shall be continuing, a Bondholders' Committee representing the holders of not less than a majority of the Bonds at the time outstanding, as a matter of right against the City, without the notice or demand, and without regard to the adequacy of the security for the Bonds, shall, but only if and to the extent then permitted by law and the Original Resolution be entitled to take possession and control of the business and properties of the Wastewater System and upon taking such possession, such Bondholders' Committee shall operate and maintain the Wastewater System, make any necessary repairs, renewals and replacements in respect thereof, prescribe rates and charges for services furnished through the facilities of the Wastewater System and collect the Revenues of the Wastewater System.

Upon the occurrence of an Event of Default and at any time while an Event of Default shall be continuing, the holders of twenty-five percent (25%) or more in principal amount of the Bonds then outstanding or any committee therefore shall, but only if and to the extent then permitted by law and the Original Resolution, be entitled to the appointment of a receiver to take possession of the Wastewater System, to manage, and receive and apply the Revenues.

If an Event of Default shall happen and shall not have been remedied, a Bondholders' Committee is empowered to proceed forthwith to institute such suits, actions and proceedings to protect and enforce its rights and the rights of the holders of the Bonds under the Resolution or, to file such proof of debt, amendment of proof of debt, claim, petition or other document as may be necessary or advisable in order to have the claims of the holders of the Bonds allowed in any equity receivership, insolvency, bankruptcy, liquidation, readjustment, reorganization or other similar proceedings.

The holders of not less than a majority in principal amount of the Bonds at the time outstanding shall be authorized and empowered (1) to direct the time, method, and place of conducting any proceeding for any remedy available to the holders of the Bonds; or (2) on behalf of the holders of the Bonds then outstanding, to consent to the waiver of any Event of Default or its consequences.

Any holder of any of the Bonds shall have the right to institute any suit, action or proceeding at law or in equity for the enforcement of any provision of the Resolution or the execution of any trust under the Resolution or for any remedy under the Resolution.

## Defeasance

The obligations of the City under the Resolution and the liens, pledges, charges, trusts, covenants and agreements of the City therein made or provided for, shall be fully discharged and satisfied as to any Bond and such Bond shall no longer be deemed to be outstanding thereunder, (i) when such Bond shall have been canceled, or shall have been surrendered for cancellation or is subject to cancellation, or shall have been purchased from moneys held under the Resolution; or (ii) when payment of the principal of and premium, if any, on such Bond, plus interest on such principal to the due date thereof (whether such due date be by reason of maturity or upon redemption or prepayment, or otherwise) either (a) shall have been made or caused to be made in accordance with the terms thereof, or (b) shall have been provided for by irrevocably depositing with a Trustee, in trust, and irrevocably appropriating and setting aside exclusively for such payment, either (1) moneys sufficient to make such payment or (2) Refunded Municipal Obligations or Investment Securities which shall include only those obligations described in items (i) and (ii) of the definition of Investment Securities above maturing as to principal and interest in such amounts and at such times as will insure the availability of sufficient moneys to make such payment, whichever the City deems to be in its best interest, and all necessary and proper fees, compensation and expenses of such Trustee with respect to which such deposit is made shall have been paid or the payment thereof provided for to the satisfaction of said Trustee and proper notice of such redemption or prepayment shall have been previously published in accordance with the Resolution or provision shall have been irrevocably made for the giving of such notice.

## Swap Contracts

If the City enters into an interest rate swap or other interest rate hedging transaction with respect to the payment of interest with respect to the Bonds, the amounts that the City pays or receives under such interest rate swap or other hedging transaction shall be taken into account in determining interest or the interest requirements on such Bonds for all purposes under the Resolution. Such payments shall be made or such funds received at such times and in such amounts as shall be established by a Supplemental Resolution authorizing the interest rate swap or other hedging transaction. In the case of variable rate issues in which financial covenants are based on the synthetic fixed rate under a swap, utilization of the synthetic fixed rate under a swap for purposes of performing any required calculations under the applicable legal documentation shall be permitted only if such documentation and the applicable swap satisfy the following requirements:

(i) The swap provider must be rated least A-/A3 or better by Standard & Poor's and Moody's (the "Initial Rating Requirement").

(ii) Assuming satisfaction of the Initial Rating Requirement, and thereafter as long as the long-term indebtedness of the swap provider or the claims paying ability of the swap provider does not fall below Baa2 or BBB by either Standard & Poor's or Moody's (the "Minimum Rating Requirement"), all interest rate assumptions for purposes of establishing or demonstrating compliance with financial covenants (e.g., rate covenant, additional bonds test) may be based upon the synthetic fixed interest rate under the swap.

(iii) Failure to maintain a swap provider holding the Minimum Rating Requirement or, if the issuer elects, failure to replace any such swap provider by another swap provider which holds the Initial Rating Requirement within ten business days, will have the following effects: (1)

compliance with any required rate covenant for the preceding Fiscal Year will be based on the actual interest paid on the Variable Rate Indebtedness during such Fiscal Year without regard to the swap; and (2) any "forward-looking" financial covenant based upon debt service will be based upon the variable rate.

(iv) For short-dated swaps having terms or weighted average maturities of ten years or less, whereupon related bonds automatically convert to a pre-set fixed rate, the embedded swap provider must meet the Initial Rating Requirement. With respect to financial covenants, the synthetic fixed rate based on the swap may be utilized for purposes of demonstrating or establishing compliance with the applicable covenant. Failure to maintain a swap provider holding the Minimum Rating Requirement during the embedded swap period will require replacement of the Swap provider within ten business days. Failure to replace will require re-calculation of the applicable financial covenants as described above.

Amendments to Resolution No. R-129-90 Not Yet Effective

The following amendments will become effective only upon the defeasance or payment in full of principal of and interest on the Outstanding Bonds (other than the Series 2008 Bonds, Series 2010 Bonds, Series 2010C Bonds, Series 2012 Bonds, Series 2012B Bonds, Series 2013A Bonds, Series 2014A Bonds, Series 2015A Bonds, Series 2015B Bonds, Series 2016A Bonds and Series 2017A Bonds) or upon receipt of the necessary consents of holders of outstanding Bonds under Resolution No. 1644, which may include the holders of the Series 2017A Bonds. Certain of the amendments described below amend and replace the corresponding provisions summarized above.

(a) The following subparagraph shall be added to the definition of "Debt Service" at the end of such definition:

> (G) In calculating the Debt Service on any Parity Indebtedness or proposed Parity Indebtedness with respect to which the federal government or any agency thereof is or is expected to be obligated to make tax refunds or other payments to the City or the Board for the purpose of reducing the interest costs associated therewith, the Board may offset any stated interest payment on such Parity Indebtedness or proposed Parity Indebtedness by the amount of the scheduled tax refund or other payment corresponding thereto.

(b) The following sentence shall be added to the definition of "Revenues" at the end of such definition:

"Revenues" shall also not include any payments to the Board with respect to which an adjustment to Debt Service has been made pursuant to the subparagraph (G) of the definition of Debt Service.

(c) The following subsection shall be added to Section of the Resolution summarized under the heading "Application of Revenues":

> (k) Notwithstanding the foregoing, the Board may deposit any amounts described in the subparagraph (G) of the definition of Debt Service directly into the Debt Service Fund at the Board's option.